

**DISCUSSION DRAFT: NATIONAL TELECOMMUNI-
CATIONS AND INFORMATION ADMINISTRATION
REAUTHORIZATION ACT OF 2018**

HEARING
BEFORE THE
SUBCOMMITTEE ON COMMUNICATIONS AND
TECHNOLOGY
OF THE
COMMITTEE ON ENERGY AND
COMMERCE
HOUSE OF REPRESENTATIVES
ONE HUNDRED FIFTEENTH CONGRESS
SECOND SESSION

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**DISCUSSION DRAFT: NATIONAL TELE-
COMMUNICATIONS AND INFORMATION AD-
MINISTRATION REAUTHORIZATION ACT OF
2018**

TUESDAY, JUNE 26, 2018

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COMMUNICATIONS AND TECHNOLOGY,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 1:15 p.m., in room 2322 Rayburn House Office Building, Hon. Marsha Blackburn (chairman of the subcommittee) presiding.

Members present: Representatives Blackburn, Lance, Shimkus, Latta, Guthrie, Bilirakis, Johnson, Flores, Brooks, Collins, Walters, Costello, Doyle, Welch, Loeb sack, Ruiz, Eshoo, Butterfield, Matsui, McNerney, and Pallone (ex officio).

Staff present: Jon Adame, Policy Coordinator, Communications and Technology; Robin Colwell, Chief Counsel, Communications and Technology; Kristine Fargotstein, Detailee, Communications and Technology; Sean Farrell, Professional Staff Member, Communications and Technology; Adam Fromm, Director of Outreach and Coalitions; Elena Hernandez, Press Secretary; Paul Jackson, Professional Staff, Digital Commerce and Consumer Protection; Tim Kurth, Deputy Chief Counsel, Communications and Technology; Lauren McCarty, Counsel, Communications and Technology; Austin Stonebraker, Press Assistant; Evan Viau, Legislative Clerk, Communications and Technology; Jeff Carroll, Minority Staff Director; Jennifer Epperson, Minority FCC Detailee; Alex Hoehn-Saric, Chief Counsel, Communications and Technology; Jerry Leverich, Minority Counsel; Dan Miller, Minority Policy Analyst; Jon Monger, Minority Counsel; Andrew Souvall, Minority Director of Communications, Outreach and Member Services; C.J. Young, Minority Press Secretary.

OPENING STATEMENT OF HON. MARSHA BLACKBURN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TENNESSEE

Mrs. BLACKBURN. The Subcommittee on Communications and Technology will now come to order. The chair now recognizes herself for 5 minutes for an opening statement.

And I want to welcome you to our hearing on reauthorizing the NTIA. This should be a very familiar topic to everyone in the room as NTIA reauthorization was also my very first hearing as chair of

this subcommittee on February 2nd of 2017. Since then, we have held nine hearings related to the work of the NTIA, including an oversight hearing this spring with the new NTIA administrator.

I'd like to thank our witnesses for being here. Ms. Hovis has been particularly generous with her time, as this is her third appearance before the subcommittee this Congress on NTIA-related topics. We welcome Mr. Kneuer back to the subcommittee as well, and are pleased to welcome Mr. Gallagher as the fourth former NTIA administrator that we have heard from. We appreciate your perspectives on the agency and also what music you might have been listening to when the NTIA was last reauthorized. Of course, as somebody coming from middle Tennessee, I'll give you a little hint.

Mr. Doyle was dancing the line dance in Pittsburgh to the music of Billy Ray Cyrus and "Achy Breaky Heart." I know it.

Mr. DOYLE. I kind of doubt that but—

[Laughter.]

Mrs. BLACKBURN. I think I am probably right, and it's also—1992 is the year that Miley Cyrus was born. This shows you how long it has been.

Make no mistake, the bill before us today is a rural broadband bill, and a very important one at that. Many of us hear over and over again about the desperate need to connect unserved Americans, and we are willing to invest toward that goal. But we must ensure good stewardship of those dollars. We know that without Federal involvement, rural areas will continue to be left behind. So the best thing that we can do to promote rural broadband is to help the Federal Government get its act together.

Mr. Tonko and Mr. Lance's ACCESS BROADBAND Act would establish a new office within NTIA to do just that. As we saw at our last markup, this bill has strong bipartisan support. There is just one problem: without giving NTIA the resources it needs to start up and follow through on this new function, our subcommittee's vision will never be realized.

And the same can be said of our bipartisan consensus that NTIA should be pulling in the latest information across the government to develop an accurate nationwide map of broadband service to guide deployment efforts. We first gave NTIA this task in the American Recovery and Reinvestment Act of 2009 and we reaffirmed the priority in RAY BAUM'S Act. Our vision was then enacted in the omnibus, but with funding to get the job started, more will need to be done.

That's why we have targeted our discussion draft so squarely at giving NTIA both the authority and resources to get to work on these two bipartisan, urgently needed initiatives.

Our discussion draft also asserts our leadership and priorities on other important areas in NTIA's purview, including internet governance, supply chain vulnerabilities, and getting our first responders the very best, most accurate location information when someone calls 911.

And here is the alternative. For 26 years, we have funded NTIA without an authorization from this committee, and every time we fail here, we fail the jurisdiction of this committee. But with the level of consensus we have on our vision of NTIA's leadership on

rural broadband, that would be a real shame, and I don't intend for us to let that happen.

So at this time, I yield back the balance of my time and I yield to Mr. Doyle 5 minutes for an opening statement.

[The prepared statement of Mrs. Blackburn follows:]

PREPARED STATEMENT OF HON. MARSHA BLACKBURN

Good afternoon and welcome to our hearing on reauthorizing the NTIA. This should be a familiar topic to everyone in the room as NTIA reauthorization was also my first hearing as chair of this subcommittee on February 2nd of 2017. Since then, we have held nine hearings related to the work of NTIA, including an oversight hearing this spring with the NTIA Administrator.

I'd like to thank our witnesses for being here. Ms. Hovis has been particularly generous with her time, as this is her third appearance before the subcommittee this Congress on NTIA-related topics. We welcome Mr. Kneuer back to the subcommittee as well, and are pleased to welcome Mr. Gallagher as the fourth former NTIA Administrator we have heard from. We appreciate your perspectives on the agency, and also what music you might have been listening to when the NTIA was last reauthorized. I'll give you a little hint, it was the year that Miley Cyrus was born.

Make no mistake, the bill before us today is a rural broadband bill, and a very important one at that. Many of us hear over and over again about the desperate need to connect unserved Americans, and we are willing to invest toward that goal, but we must ensure good stewardship of those dollars. We know that without Federal involvement, rural areas will continue to be left behind. So the best thing we can do to promote rural broadband is to help the Federal Government get its act together.

Mr. Tonko and Mr. Lance's ACCESS BROADBAND Act would establish a new office within NTIA to do exactly that. As we saw at our last markup, it has our strong bipartisan support. There's just one problem: without giving NTIA the resources it needs to start up and follow through on this new function, our subcommittee's vision will never be realized.

And the same can be said of our bipartisan consensus that NTIA should be pulling in the latest information across the government to develop an accurate, nationwide map of broadband service to guide deployment efforts. We first gave NTIA this task in the American Recovery and Reinvestment Act of 2009, and we reaffirmed the priority in RAY BAUM'S Act. Our vision was then enacted in the omnibus, but with funding to get the job started, but more will be needed.

That's why we have targeted our discussion draft so squarely at giving NTIA both the authority and the resources to get to work on these two bipartisan, urgently needed initiatives. And I hope we will be able to move it forward on a bipartisan basis.

Our discussion draft also asserts our leadership and our priorities on other important areas in NTIA's purview, including internet governance, supply chain vulnerabilities, and getting our first responders the very best, most accurate location information when someone calls 911.

Here is the alternative. For 26 years we have funded NTIA without an authorization from this Committee. And every time we fail here, we fail the jurisdiction of this Committee. But with the level of consensus we have here on our vision of NTIA's leadership on rural broadband, that would be a real shame, and I don't intend for it to happen.

At this time, I will yield to the ranking member of the subcommittee, Mr. Doyle, for 5 minutes for an opening statement.

OPENING STATEMENT OF HON. MICHAEL F. DOYLE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF PENNSYLVANIA

Mr. DOYLE. Thank you, Madam Chair, for holding this hearing and thank you to the witnesses for appearing before us today.

The National Telecommunications and Information Administration plays a critical role of advising the President on telecommunications and information policy issues.

NTIA also manages federal spectrum usage and has been a key partner in freeing up more spectrum for commercial use. In doing so, they have generated tens of billions in revenue for the Federal Government—a mission that I strongly believe we can do more to help them accomplish.

The AIRWAVES Act, a bipartisan bicameral bill that I've sponsored with Mr. Lance, along with Senators Gardner and Hassan, furthers this mission by freeing up additional federal spectrum for commercial use and paves the way for our nation's 5G future. AIRWAVES frees up a combination of licensed and unlicensed spectrum to meet our nation's diverse spectrum needs.

The bill also sets up a new mechanism to help deploy broadband in rural and underserved communities by directing a portion of the spectrum auction revenue to wireless broadband deployment.

Madam Chair, this legislation is supported by a number of our colleagues on this committee on both sides of the aisle and I think it merits consideration by this subcommittee.

I think this legislation could go a long way to accomplishing many of our shared goals. Going back to NTIA, the agency also administers grant programs to deploy broadband and other advance technologies, including the very successful \$4 billion BTOP broadband program.

The lessons learned from this program led to the creation of Broadband USA, a one-stop shop that helps state, local governments, industry, and nonprofits obtain the tools they need to expand broadband deployment and promote digital inclusion.

I am happy to see that the reauthorization draft before us includes Mr. Tonko's bipartisan ACCESS BROADBAND Act, which we voice voted out of this subcommittee 2 weeks ago.

This legislation puts into statute many of the things that NTIA is already doing through the Broadband USA program. I am also happy to be a cosponsor of this legislation.

This is a good start, but if we are going to help our rural and underserved communities address their broadband needs, we need to put our money where our mouth is and dedicate more dollars to solving this problem, particularly if we ever want to get people connected in rural and tribal communities as well as in Puerto Rico and other areas suffering from storm-related damage and outages.

Ranking Member Pallone's LIFT America Act sets out \$40 billion in funds to help address our nation's broadband shortfalls. This is the kind of commitment we need if we want to address these problems, because if we continue to just sit here, these problems aren't going to solve themselves.

The draft reauthorization also directs NTIA to continue working on the national broadband map, another Recovery Act program that, like BTOP, has run out of money. I agree with the majority that having accurate broadband maps is important both for the government and for consumers and communities. We can't solve a problem that we don't know the scale of. Looking at the mapping debacle in the FCC's Mobility Fund II's proceedings demonstrates the need for better data.

The agency also represents and advocates on behalf of the United States internationally on matters of internet governance and telecommunications policy.

In this time of fractured alliances and tumultuous trade policy, a globally unified free and open internet is more important than ever. NTIA, as our representatives to a number of these global internet governance organizations, needs to advance that message through what seems to be a great deal of noise from our government.

NTIA also does critical spectrum research at the lab in Colorado, which we need to do more to support. They've also been a critical partner in housing and launching FirstNet, our nation's public safety broadband network, which I am happy to note every state has opted into.

They have also done good work developing policies on a range of complex technical subjects including privacy, cybersecurity, and the digital economy.

Madam Chair, I support this agency and I support giving this agency more resources to accomplish its many missions. I look forward to hearing from the witnesses and working with you on this legislation, and I yield back.

[The prepared statement of Mr. Doyle follows:]

PREPARED STATEMENT OF HON. MICHAEL F. DOYLE

Thank you, Madam Chairman for holding this hearing, and thank you to the witnesses for appearing before us today.

I just want to start by saying that I'm concerned we don't have someone from the agency we are planning to reauthorize here to testify. While I appreciate the time and effort the witnesses have taken out of their schedules to appear before us today, I'm deeply concerned that without participation from representatives of the agency itself we will not be fully able to understand the needs of the agency and how best this subcommittee can help them in accomplishing their mission.

That issue aside, the National Telecommunications and Information Administration plays the critical role of advising the President on telecommunications and information policy issues.

NTIA also manages Federal spectrum usage and has been a key partner in freeing up more spectrum for commercial use, in doing so they have generated tens of billions in revenue for the Federal Government—a mission that I strongly believe we can do more to help them accomplish.

The Airwaves Act, a bipartisan-bicameral bill that I have sponsored with Mr. Lance, along with Senator's Gardner and Hassan, furthers this mission by freeing up additional federal spectrum for commercial use and paves the way for our nation's 5-G future. The Airwaves Act frees up a combination of licensed and unlicensed spectrum to meet our nation's diverse spectrum needs.

The bill also sets up a new mechanism to help deploy broadband in rural and underserved communities, by directing a portion of the spectrum auction revenue to wireless broadband deployment.

Madam Chairman, this legislation is supported by a number of our colleagues on this committee on both sides of the aisle, and I think it merits consideration by this subcommittee. I think this legislation could go a long way to accomplishing many of our shared goals.

Going back to NTIA, the agency also administers grant programs to deploy broadband and other advanced technologies, including the very successful \$4 billion B-TOP broadband program.

The lessons learned from this program led to the creation of Broadband-USA, a one-stop shop that helps states, local governments, industry, and non-profits obtain the tools they need to expand broadband deployment and promote digital inclusion.

I'm happy to see that the reauthorization draft before us includes Mr. Tonko's bipartisan Access Broadband Act, which we voice voted out of this subcommittee 2 weeks ago. This legislation puts into statute many of the things that NTIA is already doing through the Broadband USA program. I'm also happy to be a cosponsor of this legislation.

It's a good start, but if we are going to help our rural and underserved communities address their broadband needs, we need to put our money where our mouth is and dedicate more dollars to solving this problem, particularly if we ever want

to get people connected in rural and tribal communities as well as in Puerto Rico and other areas suffering from storm related damage and outages.

Ranking Member Pallone's Lift America Act sets out 40 billion dollars in funds to help address our nation's broadband shortfalls. This is the kind of commitment we need if we want to address these problems. If we continue to just sit here, these problems aren't going to solve themselves.

The draft reauthorization also directs NTIA to continue working on the National Broadband Map, another Recovery Act program that, like B-TOP, has run out of money. I agree with the majority that having accurate broadband maps is important both for the government and for consumers and communities. We can't solve a problem that we don't know the scale of. Looking at the mapping debacle in the FCC's Mobility Fund 2 proceeding demonstrates the need for better data.

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In this time of fractured alliances and tumultuous trade policy, a globally unified free and open internet is more important than ever. NTIA, as our representative to a number of these global internet governance organizations, needs to advance that message, through what seems to be a great deal of noise from our government.

NTIA also does critical spectrum research at the lab in Colorado, which we need to do more to support. They have also been a critical partner in housing and launching First-NET, our nation's public safety broadband network, which, I'm happy to note, every state has opted into.

They also have done good work developing policies on a range of complex technical subjects including: privacy, cybersecurity, and the digital economy.

Madam Chairman, I support this agency, and I support giving this agency more resources to accomplish its many missions. I look forward to hearing from the witnesses and working with you on this legislation.

Mrs. BLACKBURN. The gentleman yields back.

Mr. Lance, you are recognized on Chairman Walden's.

OPENING STATEMENT OF HON. LEONARD LANCE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. LANCE. Thank you very much, Chairman Blackburn, and our thanks to the distinguished panel for appearing before us today.

Following the landmark bipartisan passage of RAY BAUM'S Act earlier this year, which reauthorized the FCC for the first time since 1990, we are now looking to reauthorize the NTIA for the first time since 1992. I commend the chairman for fulfilling the subcommittee's authorizing duties.

I am pleased that the draft legislation also includes the ACCESS BROADBAND Act, which I introduced last year with Congressman Tonko and that we recently reported unanimously out of this subcommittee. The bill would create a new office within NTIA tasked with tracking all Federal broadband support programs across several agencies, and ensuring Federal broadband funds are used efficiently. It is important to recognize that Federal funds for broadband deployment are finite and must be focused on the areas of the country that need them the most. This new office will help make sure that agencies are not duplicating each other's efforts by overbuilding broadband infrastructure.

While the standalone bill continues through the committee process, I believe it still makes sense also to include it with the reauthorization language before us today. During my conversations with the NTIA before and after introduction of ACCESS BROADBAND, the agency emphasized the need for additional resources to implement this new office properly. By reauthorizing NTIA for the first time in 26 years, we provide it with those additional resources.

I thank the panel for being with us and look forward to discussing these and other important issues facing the NTIA. I ask unanimous consent from the chairman to enter a letter of support

from the Computer and Communications Industry Association into the record.

Mrs. BLACKBURN. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. LANCE. Thank you, Chairman, and I yield back the balance of my time.

[The prepared statement of Mr. Lance follows:]

PREPARED STATEMENT OF HON. LEONARD LANCE

Thank you Chairman Blackburn and thank you to our distinguished panel for appearing before us today.

Following the landmark, bipartisan passage of RAY BAUMS Act earlier this year, which reauthorized the FCC for the first time since 1990, we are now looking to reauthorize the NTIA for the first time since 1992. I commend the Chairman for fulfilling the Subcommittee's authorizing duties.

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I thank the panel for being with us and look forward to discussing these and other important issues facing the NTIA.

Mrs. BLACKBURN. Anyone seeking the balance of the time the gentleman yields back?

And Mr. Pallone has not arrived. Is there anyone seeking Mr. Pallone's time? No one seeking Mr. Pallone—

That concludes the member opening statements. The chair would like to remind members that pursuant to the committee rules, all members' opening statements will be made a part of the record.

We want to thank all of our witnesses for being here today and taking time to testify before the subcommittee. Today's witnesses will have the opportunity to give opening statements, followed by a round of questions from members.

Our panel for today's hearing will include the Honorable Michael Gallagher, former NTIA administrator and the current CEO of the Entertainment Software Association; the Honorable John Kneuer, former NTIA administrator and the current President of JKC Consulting; and Ms. Joanne Hovis, the President of CTC Technology and Energy.

We appreciate each of you being here today and preparing your testimony for the committee. We will begin today with you, Mr. Gallagher.

You are recognized for 5 minutes for an opening statement.

**STATEMENTS OF THE HONORABLE MICHAEL D. GALLAGHER,
CEO, ENTERTAINMENT SOFTWARE ASSOCIATION; THE HON-
ORABLE JOHN KNEUER, PRESIDENT, JKC CONSULTING; JO-
ANNE S. HOVIS, PRESIDENT, CTC TECHNOLOGY AND EN-
ERGY**

STATEMENT OF MICHAEL GALLAGHER

Mr. GALLAGHER. Good afternoon, Chairman Blackburn and Ranking Member Doyle. My name is Mike Gallagher and I am the CEO of the Entertainment Software Association.

Today, however, I am here in my capacity as the former NTIA administrator. I served as both Deputy Assistant Secretary and Assistant Secretary from the years 2001 to 2006.

I am also delighted to be here at the side of my good friend and colleague, John Kneuer. He and I overlapped 3 years together. So, many of the accomplishments that the administration achieved in our space we did together and he was terrific as a team member when we were together and he was even better as an assistant secretary.

Our country and NTIA are also richly well served by having David Redl as its new administrator. He has both the energy and the experience to drive the agency where we need to be in a very complex world in front of us.

And before addressing substantive issues, I'd like to begin by saying I strongly endorse the committee's efforts to reauthorize NTIA and to focus the agency on the policy objectives that are core to the agency's competencies and expertise.

NTIA is a low-cost high-impact agency that plays a vital role in expanding broadband access for all Americans and in protecting the missions of both the military and other government agencies as well as promoting the growth of the private sector through its spectrum management efforts. It also has a great tradition of doing so in a bipartisan manner, which is reflective of the draft that we are here to speak about today.

My written testimony specifically points to several issues of very significant importance for NTIA leadership and that enjoy this committee's support.

The first is the imperative rural broadband growth. It is important, but as a country, the benefits of broadband technology extend absolutely as far as possible to everyone and that includes taking continued efforts and redoubling efforts to make sure that that remains a key focus.

Alongside of that and along with a great track record are the spectrum policy enhancements. Specifically, I point to three areas where NTIA has a history of accomplishing important work and leading the country and the world on how to deploy spectrum policy and, first, is in dynamic spectrum access.

Ten years ago, in the 5 GHz band, we were able to double the amount of spectrum for wi-fi by using dynamic spectrum access technologies.

That same approach could bear significant fruit in the years ahead for the country, and that's both for government and for private sector uses.

It's also important that we identify additional unlicensed spectrum. We enjoy the fruits of unlicensed spectrum with all the devices that we carry with us. The continued growth of that is a top priority for NTIA and that's important for us to have it remain center of target.

And then, finally, it's also important to maintain the focus on achieving exclusive private sector spectrum and having more of that come from the federal government to the private sector through auction because of new technologies that make that possible.

I also fully endorse the committee's efforts too on the WHOIS database. It's critical important that the WHOIS database maintain a very high profile in all of our international engagements and that it is a top priority for law enforcement, it's a priority for copyright holders like the industry that I represent, and for other issues relative to cyber-crime.

The national broadband map and the creation of the Office of Internet Connectivity and Growth are also tremendous steps forward. I fully support those.

Having a central clearinghouse where these programs can be administered in a very efficient way, it makes great sense and it's of even higher importance.

As forecasted by dozens of witnesses over the last 25 years before this committee, the world is increasingly connected. Broadband has gone from a vision of George Gilder to the reality that's in the hands of each of us and over 4 billion people around the world.

That connected world presents tremendous opportunities and risks, and it's imperative that NTIA be focused and resourced to drive success for all of us in the years ahead.

I commend the committee for its draft reauthorization legislation and I look forward to answering any questions.

[The prepared statement of Mr. Gallagher follows:]

**Testimony of Michael D. Gallagher
President and CEO, Entertainment Software Association
Before the
Committee on Energy and Commerce
Subcommittee on Communications and Technology
U.S. House of Representatives**

June 26, 2018

Good afternoon, Chairman Blackburn and Ranking Member Doyle and distinguished members of the Subcommittee. I would first like to thank you for inviting me here today to testify on the reauthorization of the National Telecommunications and Information Administration (NTIA). I am Michael D. Gallagher, President and CEO of the Entertainment Software Association (ESA). ESA is the U.S. trade association in service to companies that publish computer and video games for consoles, personal computers, the Internet, and mobile phones. More importantly for this hearing, I also have had the privilege of serving as Assistant Secretary for Communications and Information at the U.S. Department of Commerce. I am appearing before you today in that latter capacity to offer my thoughts, as a former NTIA Administrator, on how Congress can help focus NTIA's priorities through this reauthorization.

Introduction

The NTIA plays a vital role in developing and driving the Executive Branch's policies on telecommunications and information technology. For years, its policy mission has focused on expanding broadband Internet access and adoption and ensuring that the Internet remains an engine for innovation and economic growth. Consideration of this reauthorization bill comes at an important point in time—as we stand on the cusp of the 5G rollout that will require the marshalling of our spectrum resources, continue to address the stubborn gaps in broadband availability and adoption, and navigate changing regulatory environments abroad that will affect industries with global reach. By reauthorizing the NTIA, Congress can add much-needed

resources to enable the agency to address these challenges and opportunities. Congress can also use this bill to re-focus the agency on the policy objectives that are core to the agency's competencies and expertise.

I commend the Subcommittee on highlighting important issues in the draft, including improving location technology for emergency services, and streamlining and consolidating broadband support programs administered by various executive agencies into an Office of Internet Connectivity and Growth. In my testimony, I will focus on two issues that are particularly important to NTIA's mission going forward: (1) improving rural broadband access, including by expanding the availability of spectrum for commercial use, and (2) ensuring the continued availability of Whois, a transparency tool that is vital to law enforcement, consumer protection, and intellectual property rights in the Internet ecosystem.

Rural Broadband

Improving Broadband Availability Mapping

In order to develop and implement the right policies to promote broadband deployment and adoption, we of course first need to understand broadband availability. Knowing where broadband deployment is still lacking will allow the government to better target policies to promote additional private sector investment. Geographic precision is necessary to hit this target. A high level of granularity is particularly important for determining availability in rural communities, where the distances between homes and businesses and the nearest network access point can be much greater compared to those in urban and suburban communities.

Over the years, NTIA and others have collected a wealth of data on broadband deployment and adoption from different sources. At the direction of Congress, the Federal Communications Commission (FCC) first started tracking and reporting on broadband

deployment at the turn of the century.¹ NTIA, carrying out its congressional mandate, has also played an important role in studying the availability and use of broadband Internet access. NTIA works with the Census Bureau on surveys and analyses of broadband availability and adoption.² Together with the FCC, NTIA developed the National Broadband Map.³ Non-governmental research, such as surveys conducted by the Pew Research Center, have also periodically studied broadband adoption.⁴ The quality of data collected has improved over time. For example, in 2014, the FCC revised its Form 477 to collect and analyze broadband availability at a census block level, which has significantly improved the accuracy and precision of our data.

Still, there is room for improvement, and we must do better. The data currently collected indicates only whether broadband is available *anywhere* in a given census block, and we are left to infer that residents elsewhere in that same block might also have access to the same service. But a census block can vary greatly in size, depending upon whether it is in an urban or rural environment. While the availability of service in one part of the block in urban and suburban communities suggests that the provider can, within reasonable costs, extend the service to other customers in the same block, that same inference may not be warranted with respect to rural

¹ See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Report, 14 FCC Red. 2398 (1999).

² See National Telecommunications and Information Administration, Blog Post, “New Data Show Substantial Gains and Evolution in Internet Use” (June 6, 2018), <https://www.ntia.doc.gov/blog/2018/new-data-show-substantial-gains-and-evolution-internet-use> (“NTIA June 6, 2018 Blog Post”).

³ See FEDERAL COMMUNICATIONS COMMISSION, MAPS, <https://www.fcc.gov/reports-research/maps/> (last visited June 24, 2018).

⁴ See, e.g., PEW RESEARCH CENTER, INTERNET/BROADBAND FACT SHEET, <http://www.pewinternet.org/fact-sheet/internet-broadband/> (last visited June 24, 2018).

communities, where census blocks can encompass hundreds of square miles.⁵ Broadband availability is critical for economic development in rural regions, and we need to consider new ways of collecting and measuring data to help us better serve those communities.

I applaud the reauthorization bill's focus on NTIA's leadership role in developing and improving the National Broadband Map. I also support its recognition that NTIA can and should use the existing expertise of the States, other Federal resources, and public-private partnerships. Better policy begins with better data, and I am confident that NTIA can help gather and analyze that data.

Increasing Efficient Use of Spectrum Resources

Ensuring the availability of wireless spectrum for the private sector is also critical for expanding broadband access in rural communities. Given the economics of network build-out in low-density, geographically dispersed communities, wireless holds significant promise for bridging the urban-rural broadband gap. The data we do have confirms that more cost-effective measures are necessary to make meaningful reductions in that gap.

Broadband availability and use have steadily increased in the United States overall in the past decade. However, the gap between rural communities on the one hand, and urban and suburban communities on the other hand, has been stubbornly persistent. For example, an NTIA report in 2016 found that "the [Internet use] gap between rural and urban populations has remained remarkably consistent for at least as long as NTIA has been gathering data on Internet use."⁶ The gap between rural and urban communities in 1998 was approximately 6 percentage

⁵ UNITED STATES CENSUS BUREAU, GEOGRAPHIC TERMS AND CONCEPTS – BLOCK, https://www.census.gov/geo/reference/gtc/gtc_block.html.

⁶ See National Telecommunications and Information Administration, Blog Post, "The State of the Urban/Rural Digital Divide" (Aug. 10, 2016), <https://www.ntia.doc.gov/blog/2016/state-urbanrural-digital-divide>.

points, and remained at 6 percentage points in 2015.⁷ This gap has persisted even as other differences in Internet adoption along demographic lines, such as income and race, have narrowed over time.⁸ Indeed, by some accounts, the gaps in availability and adoption rates between rural and urban communities may have actually *widened* in recent years. For example, according to the FCC's 2018 Broadband Report, between 2014 and 2016, the gap between urban and rural LTE penetration increased from 11.6 percentage points to 20.4 percentage points, attributable almost entirely to the growth of LTE availability in urban areas but its stagnation in rural areas.⁹ By making more spectrum available for wireless broadband, NTIA can make important contributions to narrowing this gap.

Freeing up additional, unused Federal spectrum

First, it is important that NTIA continue the search for additional ways to promote efficient use of Federal government spectrum. I applaud and support the momentum to identify spectrum suitable for sharing between government and private sector users. However, experience shows us that the quest for identifying additional spectrum for exclusive non-government use must continue as well.

At Congress's direction, NTIA has been successful in the past in identifying unused or inefficiently-used Federal spectrum that has been reallocated from 12 government agencies for licensed commercial use. For example, the AWS-1 auction in 2006 reallocated spectrum in the 1710-1755 MHz from Federal users. The auction generated nearly \$14 billion. Moreover, the

⁷ *See id.*

⁸ *See* NTIA June 6, 2018 Blog Post.

⁹ 2018 Broadband Deployment Report at ¶ 52, Table 2b.

released spectrum enabled the rollout of 3G mobile wireless services across the country, which provided broadband speeds that propelled the development and adoption of the mobile Internet.

Need for more advanced spectrum sharing

Second, we all recognize that spectrum is a finite resource and that there is only so much that can be allocated to exclusive commercial use or for unlicensed use. For that reason, we must continue to prioritize technologies and regulations that enable spectrum sharing both for licensed and unlicensed use.

The benefits of increasing unlicensed use in valuable bands are well known. The expansion of unlicensed uses in the 5 GHz band over time has improved Wi-Fi speeds and encouraged the development of fixed wireless broadband services. For example, the addition of 255 MHz of spectrum in the 5 GHz band in 2003 nearly doubled the amount of 5GHz spectrum for Wi-Fi and allowed for speeds of up to 54 Mbps.¹⁰ The Federal users, including for radiolocation services, shared the band and were able to continue to operate without interference from the new unlicensed users.¹¹ I encourage the Subcommittee to consider focusing on similar efforts to make more spectrum available for unlicensed use as part of the reauthorization process.

In addition to allowing users in different regions, or at different times, to share use of the same bands of spectrum, NTIA can and should continue to lead the way in advancing Dynamic Spectrum Access (DSA). Dynamic sharing will be critical for the move to 5G technologies and the accompanying increased bandwidth demands.

As we have seen, the economic value of moving to more efficient technologies is a boost to the Federal agencies as well. By deploying the funding mechanisms in the Commercial

¹⁰ See *Revision of Parts 2 and 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) devices in the 5 GHz band*, Report and Order, 18 FCC Rcd. 24484 (2003).

¹¹ See *Id.* ¶ 3.

Spectrum Enhancement Act,¹² agencies can upgrade their dated and inefficient systems to modern systems without burdening their agency's core budget. The upgrades are completely funded by the auction proceeds. The proven success of this approach should inform future policy actions.

In particular, more advanced sharing of low frequency bands can help expand broadband access in rural areas. The physical properties of lower frequency spectrum make it easier for wireless providers to reach users across the greater geographical distances in rural communities. In 2006, working with the FCC, NTIA launched the Test-Bed program to explore increased spectrum sharing among Federal and non-Federal users in lower frequency bands. I applaud the progress that NTIA has made working with Federal users, the FCC, the academy, and private industry, to expand the field testing efforts. I would encourage the Subcommittee to give NTIA the additional resources that it needs to continue this important work.

Preserving Access to Whois Information

I want to touch on another important aspect of the bill: acknowledging the critical role that the Internet domain name service, Whois, plays in consumer protection, law enforcement, and intellectual property rights. Some have suggested that recent legal developments in the EU necessitate the removal of information from Whois, or the scaling back of information collection going forward. In fact, access to such information on Whois has already been suspended. While others have convincingly argued that there is no such requirement,¹³ I want to express support for the statement in the bill's Sense of Congress on the importance of preserving Whois data, and to

¹² *Commercial Spectrum Enhancement Act*, Pub. L. 108-494 (2004).

¹³ See, e.g., The Internet Corporation for Assigned Names and Numbers, Press Release, "ICANN Files Legal Action in Germany to Preserve WHOIS Data (May 25, 2018), <https://www.icann.org/news/announcement-2018-05-25-en>.

recommend that the Subcommittee provide its fullest support for the NTIA Administrator in promoting this position abroad.

When businesses, organizations, or individuals register a domain name with the Internet Corporation for Assigned Names and Numbers (ICANN), they are required to provide basic identifying and contact information, including a name, phone number, and address. This data is publicly available through a database called Whois, which is maintained by ICANN and provides information for every registered domain name. Whois provides a vital function in the Internet ecosystem by promoting transparency for law enforcement, consumers, and intellectual property owners, among others.

Law enforcement officials have emphasized the importance of the Whois database for years. By using information available through Whois, investigators are able to identify the individual or entity responsible for a website that may be involved in criminal activity, and they can use that information to focus their investigation and to serve as a “starting point for utilizing other investigative techniques.”¹⁴ For example, in 2003, a senior FBI official testified before the House Judiciary Committee’s Subcommittee on Courts, Intellectual Property, and the Internet, explaining the value of the database: “Cyber Division investigators use the Whois database almost every day. Querying of domain name registries is the first step in many cybercrime investigations.”¹⁵

Whois has been important to consumer protection efforts in the United States. In 2006, then-Chairman of the Federal Trade Commission, John Leibowitz, issued a statement before

¹⁴ James E. Farnan, Testimony Before the House Committee on the Judiciary, Subcommittee on Courts, Intellectual Property, and the Internet, Federal Bureau of Investigation (Sept. 4, 2003), <https://archives.fbi.gov/archives/news/testimony/the-whois-database-and-cybercrime-investigation>.

¹⁵ *Id.*

ICANN explaining how the service aided the FTC in carrying out its mission. In one instance, he explained how, “[u]sing Whois data, the FTC found the defendants, stopped their illegal conduct, and obtained a judgment for millions of dollars in consumer redress.”¹⁶ Using Whois, consumers can also directly access more information about the websites they visit and use that information in reporting potential fraudulent activities. For instance, FTC staff noted that “a significant number” of consumer complaints the agency receives referenced the Whois database,¹⁷ indicating that many consumers used this publicly available information as an initial way to gather more information about the domain name in question. The Organisation for Economic Co-operation and Development has also weighed in on this issue, concluding that “[e]ffective identification of online businesses is one element of the framework for consumer trust.”¹⁸

Whois is also a valuable tool for enforcing intellectual property rights, which has been and will continue to be the engine for economic growth. Indeed, the International Trademark Association issued a statement in support of the database, explained how intellectual property owners could use the database to protect their property, and warned, “elimination or reduction of open access to ownership information contained in the Whois database will result in increased abuses of intellectual property and online fraud.”¹⁹

¹⁶ John Leibowitz, Prepared Statement of the Federal Trade Commission before the Internet Corporation for Assigned Names and Numbers (“ICANN”) Meeting Concerning Whois Databases, at 4-5 (June 2006), <https://www.icann.org/en/system/files/files/leibowitz-mar-26jun06-en.pdf> (“FTC Statement”).

¹⁷ *Id.* at 7.

¹⁸ Consumer Policy Considerations on the Importance of Accurate and Available Whois Data, Organisation for Economic Co-operation and Development, at 4 (June 2, 2003), [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/CP\(2003\)1/FINAL&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/CP(2003)1/FINAL&docLanguage=En)

¹⁹ International Trademark Association, Continued Open Access to the Whois Database (Nov. 12, 2008), <http://www.inta.org/Advocacy/Pages/ContinuedOpenAccessToTheWhoisDatabase.aspx>.

Taken as a whole, the Whois database serves law enforcement officials, intellectual property owners, and consumers as they identify and confront online predators and cybercriminals that would otherwise hide behind the anonymity of a computer screen.

I strongly support the bill's focus on the importance of preserving robust access to the Whois service and believe that NTIA will be a great advocate internationally. Bicameral, bipartisan support for NTIA's position on Whois would greatly help the agency's ability to advance the issue before multilateral stakeholders.

Again, thank you for inviting me here to speak with you today.

Mrs. BLACKBURN. The gentleman yields back.
Mr. Kneuer, you are recognized for 5 minutes.

STATEMENT OF JOHN KNEUER

Mr. KNEUER. Good afternoon, Chairman Blackburn, Ranking Member Doyle, Ranking Member Pallone, members of the subcommittee.

It's an honor to be back here before you. My name is John Kneuer. From 2003 to 2007, it was my privilege to serve first as the Deputy Assistant Secretary and then as the Assistant Secretary at NTIA.

Since leaving government in 2007, I've worked in the private sector as a board member, consultant, advisor to companies and institutions with an interest in domestic and international telecommunications.

But I am appearing before you today in my personal capacity and my testimony and comments are my own.

I would like to start by commending you, Chairman Blackburn, and the committee for undertaking the hard work of the reauthorization.

In my experience, even though NTIA is explicitly an executive branch agency and the assistant secretary serves at the pleasure of the president, the exercise of government authority in the service of the citizenry is most effective and accountable when there is an established clarity of mission agreed upon by both the administration and the sources of its funding in the Congress.

Regular reauthorization of executive branch agencies can provide that clarity and, following up on Mike's comments about David Redl, a proud alumni of this committee, I think that experience and his judgement—he's someone who's particularly well suited to navigate both the executive branch equities while responding to the appropriate oversight of Congress.

This is my second opportunity to testify before this committee on the subject of the NTIA reauthorization. At last year's hearing, the focus of my testimony was on the dual responsibilities of NTIA as both the principal advisor of the president on telecommunications policy as well as the management of the Federal radio government spectrum.

Because of the demands of this dual responsibility, NTIA has developed a specialized technical competency that provides expertise to policymakers across the government with interest in technical matters in everything from spectrum to internet governance to the broadband economy.

But in addition to this technical expertise, NTIA has developed a valuable expertise in coordinating interagency equities in the service of broader government priorities. I believe it is this interagency policy coordination function that is most relevant to the draft legislation under consideration.

While the legislation being considered covers a broad range of issues before NTIA—and I will endeavor to answer any questions on any of these subjects—for purposes of time I will focus my testimony on those sections of the legislation where I believe my experience is the most relevant.

So from time to time, NTIA has been granted authority to administer large-scale infrastructure grant programs intended to advance access to communications networks for underserved communities. Sometimes these are targeted and limited in scope, like the public safety grant programs, and sometimes more widespread, as in the Broadband Technology Opportunities Program.

However, in each instance, NTIA was required to coordinate with institutions across the government for either execution or measurement of the effectiveness of this program.

This experience should enable NTIA to effectively coordinate the broadband map as well as the Office of Internet Connectivity and Growth.

One of the challenges in effectively distributing broadband infrastructure funds is accuracy in measuring the extent to which broadband networks are already being deployed by market participants.

Scarce resources should be deployed where there are actual gaps in coverage rather than in competition with private capital. But because different government agencies gather information in different formats from different sources, it makes sense to have a single repository for all this information that can be synthesized into a format that can be consistently applied and relied upon by various grant and loan-issuing agencies across the government. I believe NTIA has the experience and the personnel to perform these functions.

With regard to the sense of the Congress on cybersecurity and supply chain vulnerabilities, NTIA is particularly well suited to engage in these important matters that cut cross commercial interests as well as important government equities.

By providing the perspective of industry into the interagency process, NTIA can help bridge the gap between the executive branch interests with national and homeland security responsibilities and keep private sector interest so that they all support our collective cyber defenses.

Similarly, NTIA can serve as a conduit from government agencies with cyber responsibilities to the private sector to ensure that information flows in both directions to maximum effect.

In addition, from its position within the Department of Commerce, NTIA has access to the broad resources of the International Trade Administration and the Bureau of Industry and Security on supply chain matters that implicate either our trade agreements or the intersection of national security and high technology.

Finally, with regard to the collection and availability of WHOIS data, WHOIS data has been a foundational feature of the domain name system.

As far back as 1982, before there was an internet, ARPANET had WHOIS requirements so people could understand who was supporting the network. WHOIS requirements were included in every memorandum of understanding between NTIA and ICANN from 1998 to 2016.

With the transition of the IANA contract, timely, unrestricted, and accurate WHOIS remains a feature of ICANN's process. The sense of the Congress underscores this important role.

Historically, NTIA has been the U.S. government entity in charge of protecting WHOIS obligations and I believe NTIA remains the proper repository for this policy coordination and advocacy before ICANN.

Again, I appreciate the opportunity to testify. I will remain available to the committee throughout this process as you consider the authorization and I will look forward to your questions.

[The prepared statement of Mr. Kneuer follows:]

Testimony of John M. R. Kneuer
House Energy and Commerce Committee
Subcommittee on Communications and Technology
June 26, 2018

Good Afternoon Chairman Blackburn, Ranking Member Doyle, Members of the Committee.

It is an honor to be back here before you, my name is John Kneuer. From 2003 to 2007, it was my privilege to serve first as the Deputy Assistant Secretary, and then to be appointed by the President and confirmed by the Senate as the Assistant Secretary of Commerce for Communications and Information and Administrator of the National Telecommunications and Information Administration ("NTIA").

Since leaving government in 2007 I have worked in the private sector as a board member, consultant, and advisor to companies and institutions with interests in domestic and international telecommunications and technology markets. However, I am appearing before you today in my personal capacity and my testimony and comments are my own.

At the outset, I would like to commend Chairman Blackburn and the Committee for undertaking the hard work of this reauthorization. In my experience, although NTIA is explicitly an Executive Branch agency - and once confirmed the Assistant Secretary serves at the pleasure of the President - the exercise of government authority in the service of the citizenry is most effective and accountable when there is an established clarity of mission agreed upon by both the administration and the sources of its funding in Congress. Regular re-authorization of executive branch agencies can provide that clarity. And I would be remiss if I didn't acknowledge the new Assistant Secretary - David Redl. A proud alumni of this Committee and, in my judgement, someone whose experience is particularly well suited to navigating executive branch equities while responding to the appropriate oversight of Congress.

This is my second opportunity to testify before this Committee on the subject of NTIA reauthorization. At last year's hearing the focus of my testimony was on the broad responsibilities of NTIA and its dual role as the principal advisor to the President on telecommunications policy, as well as the manager of the federal government radio spectrum. Because of the demands of this dual responsibility NTIA has developed a specialized technical competency that provides expertise to policy-makers across the government with interests in technical matters from spectrum science, to Internet Governance, to the broadband economy. But in addition to this technical expertise, NTIA has developed a valuable expertise in coordinating inter-agency equities in the service of broader government priorities. I

believe that it is this inter-agency policy coordination function that is most relevant to the draft legislation under consideration.

While the legislation being considered covers a broad range of issues before NTIA – and I will endeavor to answer any questions on these subjects – for purposes of time I will focus my testimony on those sections of the legislation with which I feel my experience is most relevant.

SEC. 102. Broadband Inventory Map and SEC. 202. Establishment of the Office of Internet Connectivity and Growth

From time to time, NTIA has been granted authority to administer large scale infrastructure grant programs intended to advance access to communications networks for underserved communities. These are sometimes targeted and limited in scope - as in the PSIC public safety grant programs – and sometimes more widespread – as in the Broadband Technology Opportunities Program (“BTOP”). However, in each instance NTIA was required to coordinate with institutions across the government for either execution or measurement of the effectiveness of the program.

This experience should enable NTIA to effectively coordinate the Broadband Map as well as the Office of Internet Connectivity and Growth. One of the challenges in effectively distributing broadband infrastructure funds is accuracy in measuring the

extent to which broadband networks are already being deployed by market participants. Scarce resources should be deployed where there are actual gaps in coverage, rather than in competition with private capital. Because different government agencies gather information in different formats and from different sources, it makes sense to have a single repository for all of this information that can be synthesized into a format that can be consistently applied and relied upon by various grant and loan issuing agencies across the government. NTIA has the experience and personnel to perform these functions.

SEC. 104. Sense of Congress on CyberSecurity Threats and Supply Chain

Vulnerabilities

With regards to the sense of the Congress on cyber-security and supply chain vulnerabilities, NTIA is particularly well-suited to engage in these important matters that cut across commercial interests as well as important government equities. By providing the perspective of industry into the inter-agency process, NTIA can help bridge the gap between the executive branch interests with national and homeland security responsibilities and key private sector interests so that they all support our collective cyber-defenses. Similarly, NTIA can serve as a conduit from government agencies with cyber responsibilities to the private sector to ensure that information flows in both directions to maximum affect.

In addition, from it's position within the Department of Commerce NTIA has access to the broad resources of the International Trade Administration and the Bureau of

Industry and Security on supply chain matters that implicate our trade agreements or the intersection of national security and high technology.

SEC. 105. Sense of the Congress on Preservation of Domain Name System and WHOIS Service

The collection and availability of accurate WHOIS data is a foundational feature of the Domain Name System. In fact, as far back as 1982 a WHOIS requirement was included as a directory for the ARPANET – the government precursor to the Internet. And WHOIS requirements were included in every Memorandum of Understanding between NTIA and ICANN from 1998 to 2016. With the transition of the IANA contract “timely, unrestricted, and accurate WHOIS” remains a feature of ICANN’s processes through Registration Directory Service (RDS) obligations.

The sense of the Congress underscores the important role WHOIS has played for law enforcement, intellectual property protection, and cyber-security. Historically, NTIA has been the USG entity in charge of protecting WHOIS obligations through its oversight of ICANN. With the transition of the IANA contract in 2016 ICANN remains U.S.-based and subject to U.S. laws. NTIA is the proper repository for the policy coordination and advocacy before ICANN and is the best suited agency to represent US equities.

Again, I appreciate the opportunity to testify before you this morning, and I will remain available to the Committee as you consider the authorization of this important agency. I will be happy to answer any questions.

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Mrs. BLACKBURN. The gentleman yields back.
Ms. Hovis, you are recognized.

STATEMENT OF JOANNE HOVIS

Ms. HOVIS. Thank you, Chairman Blackburn, Ranking Member Doyle, members of the subcommittee.

I am Joanne Hovis and I am President of CTC Technology and Energy. I am also CEO of the Coalition for Local Internet Choice, a nonprofit entity that brings together public and private entities that believe solving our nation's broadband challenges requires a full range of options including locally-driven efforts to deploy networks and create public-private partnerships.

My work focuses on assisting state, local, and tribal government to build broadband strategy and plans and on helping them to develop public-private collaborations that improve broadband infrastructure and services, address affordability challenges, and provide digital education to enable members of the community to maximize the benefits of the broadband internet in their lives.

I've encountered NTIA in my state and local level broadband work throughout the country for over a decade. My comments today focus on the important and successful role NTIA has played in broadband policy and expanding broadband service and device availability and in expanding digital literacy.

As you consider this reauthorization, I encourage you to think expansively about NTIA's important role in building broadband capabilities in infrastructure, going forward.

NTIA has this important role to fill in improving the broadband environment nationally but it also has unique expertise and experience within the Federal Government to do so and this role is essential because our work of expanding broadband access is far from done.

Large areas of rural America as well as significant sections of our urban communities lack adequate affordable broadband. Addressing these gaps in access and opportunity requires expansive thinking about funding new infrastructure and capabilities, enabling new educational and inclusion programs, and supporting access to computers and other broadband-enabled devices.

For that reason, I commend you on the current reauthorization efforts as well as on the ACCESS BROADBAND Act, the LIFT America Act, and other pending legislation focused on access, urban deserts, and rural broadband funding.

There is a critical role for Federal, state, and local entities in solving these problems and filling these gaps as well as for private sector companies and other stakeholders, and NTIA is uniquely experienced at creating bridges among all these entities.

As is discussed in greater detail in my written comments, NTIA has really done a terrific job over many years in grant making, in convening stakeholders, in stimulating public-private collaboration and partnerships, and in providing technical assistance through the Broadband USA program.

I refer to my written testimony, which goes into detail on many of those topics, but let me share with you, based on my personal experience, some of why I think NTIA's track record in building

funding programs to support expansion of broadband, particularly in rural areas, the track record is very sound.

In particular, through the BTOP program, which was referenced by my fellow panellists here, there was an impressive, laudable, and frankly, less recognized—in Washington than it deserved—effort by NTIA.

In a short period of time after passage of the Recovery Act, the team at NTIA built a robust and proven grant program and then successfully administered it in subsequent years with remarkably little controversy.

In fact, the program and NTIA's administration of it was welcomed with enormous enthusiasm and appreciation in communities impacted by it throughout the country.

This enthusiasm resulted in part from the extraordinary hunger for better broadband in significant parts of our country and in part from the way that NTIA had consulted with communities, companies, first responders, educators, and other stakeholders and built a program that was optimized to confer the greatest possible benefit in unserved and underserved areas.

At the same time, the program is also thoughtfully and efficiently designed to focus the federal investment on middle mile infrastructure to key anchor institutions such as firehouses, police stations, and remote government facilities while incenting private sector investment in the last mile to reach homes and businesses.

The vision was successfully realized in significant parts of the country. I visited or observed dozens of the projects that NTIA funded in this way and let me share just a couple of quick examples in my brief remaining time.

An example that may be of real interest is rural Garrett County in far western Maryland, a remote Appalachian community deeply impacted by the decline in the coal economy, which has struggled to get broadband in a number of its remote mountainous areas and, as a result, has also struggled to attract and retain businesses and teleworkers.

The county's current success in attracting a private partner to fund and deploy last-mile residential service in the most remote and inaccessible mountain areas. It's testimony, in part, to NTIA's efforts. NTIA granted funding to a state-led middle-mile network that reached many of the most remote schools, libraries, and public safety facilities in the state, and county leaders then further invested in additional fiber both to reach additional remote schools and to serve as a platform for last-mile deployment.

In 2015, a private partner agreed to leverage some of that fiber and local funding in order to build a fixed wireless network that will provide the potential of service to up to 3,000 currently unserved homes and hundreds of homes are already receiving service under this network.

I am grateful for your attention and I refer you to my written testimony for more examples.

Thank you so much.

[The prepared statement of Ms. Hovis follows:]

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Testimony of Joanne S. Hovis
President, CTC Technology & Energy

before the

U.S. House of Representatives Committee on Energy and Commerce
Subcommittee on Communications and Technology

“Discussion Draft: National Telecommunications and Information Administration
Reauthorization Act of 2018.”

June 26, 2018

Chairman Blackburn, Ranking Member Doyle, Members of the Subcommittee—thank you for having me here. My name is Joanne Hovis. I am president of CTC Technology & Energy, a communications engineering and planning consultancy serving the public sector.

I am also CEO of the Coalition for Local Internet Choice, a non-profit entity that brings together public and private entities that believe solving our nation's broadband challenges requires a full range of options, including locally-driven efforts to deploy networks and create public-private collaboration.

My work focuses on assisting state, local, and tribal government to build broadband strategy and plans, and on helping them to develop public-private collaborations that improve broadband infrastructure and services, address affordability challenges, and provide digital education to enable members of the community to maximize the benefits of the broadband internet in their lives.

I've encountered NTIA in my state- and local-level broadband work throughout the country for over a decade. My comments today focus on the important and successful role NTIA has played in broadband policy, in expanding broadband service and device availability, and in expanding digital literacy. As you consider this reauthorization, I encourage you to think expansively about NTIA's critical role in expansion of broadband capabilities and infrastructure going forward.

In sum, what I suggest to you today is not only that NTIA has a critically important role to fill in improving the broadband environment nationally, but also that it has unique expertise and experience within the federal government in order to do so. And this role is essential, because our work of expanding broadband access and availability is far from done—large areas of rural

America, as well as significant sections of our urban communities, lack adequate, affordable broadband. Addressing these gaps in access and opportunity requires expansive thinking about funding new infrastructure and capabilities, enabling new educational and inclusion programs, and supporting access to computers and other broadband-enabled devices. For that reason, I commend you on the current reauthorization efforts, as well as on the Access Broadband Act and LIFT America Act, which serve these critical goals.

In the efforts to meet these goals, there is a critical role for federal, state, and local entities, as well as for private sector companies and other stakeholders—and NTIA is uniquely experienced at creating bridges among all these entities.

Indeed, it is critical that NTIA's efforts in this regard continue and that it have sufficient resources to pursue this broad mission.

Let me share with you my observations of NTIA's efforts and capabilities over the past years and why I think its role going forward should be broadly understood.

First, NTIA has developed a substantial body of knowledge and expertise through extensive efforts and experience—and its track record is very sound. In particular, let me note that NTIA's work on the Broadband Technology Opportunities Program (BTOP) was impressive and laudable, and frankly less recognized here in Washington than it deserved. In a short period of time after passage of the American Recovery and Reinvestment Act (Recovery Act), the team at NTIA built a robust and prudent grant program, and then successfully administered it in subsequent years, with remarkably little controversy.

In fact, what may not be understood here in Washington is how well-received the program—and NTIA's administration of it—was in areas throughout the country where the program was welcomed with enormous enthusiasm and appreciation. This enthusiasm resulted in part from the extraordinary hunger for better broadband in significant parts of the country, and in part from the way that NTIA consulted with communities, companies, first responders, educators, and other stakeholders and built a program that was optimized to confer the greatest possible benefit in unserved and underserved areas. At the same time, the program was also thoughtfully and efficiently designed to focus the federal investment on middle mile infrastructure to key anchor institutions such as fire houses, police stations, and remote government facilities, while incenting private sector investment in the last mile to reach homes and businesses.

And that vision has been successfully realized in significant parts of the country. I've visited or observed dozens of the projects NTIA funded through BTOP. Let me share just a few examples of the benefits that have emerged from that program and the continuing dividends that effort is paying for the nation and the communities and companies it impacts.

For example, rural Garrett County, in far western Maryland, is a relatively remote Appalachian community bordered by West Virginia and Pennsylvania. The county, which has been dramatically impacted by the decline in the coal economy, has struggled to get broadband in a number of its remote, mountainous areas. Where broadband is available, it is inadequate DSL service that does not meet the Federal Communications Commission's speed benchmark for broadband service, let alone the requirements for home-based businesses or homeschooling,

which are driving economic needs for this community. As a result, the county has struggled to attract and retain businesses and teleworkers.

With that history as a backdrop, Garrett County's current success in attracting a private partner to deploy last-mile residential broadband service in the most remote and inaccessible parts of the county is testimony to NTIA's efforts. Under BTOP, NTIA granted funding to the One Maryland Broadband Network, a state-led middle-mile network that touched every county in Maryland and reached many of the most remote schools, libraries, and public safety facilities in rural Maryland. County leaders then further invested in additional fiber, both to reach all remote schools in the county but also to serve as a platform for last mile deployment by the private sector.

In 2015, the county selected a private partner to leverage some of that fiber and additional public funding to support the deployment of a fixed-wireless broadband network, currently under construction and already serving hundreds of customers, that will serve up to 3,000 currently unserved homes in the most remote parts of the county. The private partner, Declaration Networks Group (DNG), also put its own capital toward the construction of the network, and has applied its technical and operational capabilities to managing the network.

The county's outlay of funds is \$750,000, matched by a grant from the Appalachian Regional Commission (ARC) and DNG's commitment of both capital and operating funds. That relatively modest county contribution made the economics of this opportunity very attractive to DNG, and secured a broadband build-out for an area that would otherwise not be attractive for private sector broadband investment.

From an economic development perspective, the effort has been enormously successful for the county, enabling residents in 3,000 remote mountain homes to buy cost-effective broadband service that facilitates telework, home-based businesses, and homeschooling. This investment will also close the homework gap for many students in the county schools who do not currently have broadband in their homes—an increasingly critical lack of service.

As the network is completed, the county will reduce to nearly zero the number of homes in the county that do not have access to some kind of broadband communications option. This option may be modest—not the robust speeds available in metro markets—but it is significantly better than nothing, and a huge economic development achievement from the county's and the state of Maryland's standpoints. For this reason, the program has been entirely bipartisan and supported by successive governors of different political parties, as well as universally supported by local leaders.

In a second example, the University of Illinois and the cities of Urbana and Champaign, Illinois, have worked together over many years to expand their broadband infrastructure and connectivity. Those efforts included the development of the Urbana-Champaign Big Broadband (UC2B) network, which is now owned and operated by a not-for-profit corporation. Through a range of different strategies and using local private capital, state funds, and a modest federal grant, UC2B built fiber rings specifically engineered to enable fiber-to-the-premises deployment in the most cost-effective manner.

NTIA-administered BTOP funding was the key to UC2B's success. With ubiquitous FTTP as the ultimate goal, city leaders applied for and received BTOP funding to build first in neighborhoods with the lowest broadband adoption rates, which were the lowest income areas

of the community, on the theory that those would be the last places that the private sector would deploy. NTIA recognized UC2B's vision—that modest initial funding for the residential neighborhoods most likely to be passed over by for-profit service providers could catalyze a community-wide business case for broadband deployment.

The NTIA funding strategy worked. UC2B's existing \$22.5 million investment and willingness to share future risk attracted a private partner in 2013. The two partners entered into an agreement that gave the partner access to UC2B fiber on a lease basis at no cost in return for meeting the community's goals of deploying additional broadband to homes and businesses with binding requirements to enable gigabit speeds, competition, and non-discriminatory build-out. The model means the community can focus on driving demand and adoption, while relying on an experienced private partner to handle customer service, marketing, and operations.

Second, let me share how NTIA's convening expertise has had a significant impact. Over the past decade or so, NTIA has played a singular role in creating opportunities for shared learning and shared experience among some of the most highly motivated broadband stakeholders across the country in state, local, and tribal government, as well as across a wide range of companies such as manufacturers, internet service providers (ISP), and infrastructure builders.

Beginning in the early stages of the Recovery Act roll-out, for example, NTIA convened interested stakeholders at events across the country designed to stimulate partnering among public and private entities and to enable sharing of experience on topics such as best practices for building public-private partnerships. NTIA also convened state-level planners and decision-makers in all 50 states and the territories to enable these critical stakeholders to learn from each

other and to share ideas and realize efficiencies in supporting broadband deployment at the local level and with a full range of companies.

I saw tremendous benefits from these thoughtfully designed convenings. For example, I saw private ISPs and states make connections that led to important new broadband efforts, such as on the Eastern Shore of Virginia, where a consortium of localities built connections with several small wireless ISPs that were interested in serving commercial and residential customers. I further observed as NTIA efforts enabled the state of New Mexico to share with its peers from other states broadband educational materials designed to optimize broadband literacy education in rural libraries, in both English and Spanish. The Spanish-language resources, in particular, were unique and, thanks to NTIA's convenings, were spread to other states and used more extensively, a huge benefit that would not have happened had each of the states worked in a silo without the opportunities for cross-learning and cross-pollination.

Third, NTIA has played an important role as a technical adviser to states, localities, non-profits, and other entities, including smaller companies throughout the country. In my observation, over the past few years, NTIA made use of the developed expertise and extensive experience of its broadband planning team and put that expertise to work advising local communities and providing technical assistance and guidance to them as they seek to develop broadband planning strategies. The capabilities NTIA brings to bear in this capacity range from educational materials about best practices in development of public-private partnerships to guidance for how to aggregate and expand demand so as to attract private broadband investment in particularly underserved rural areas.

Communities and states around the country have observed the singular role the NTIA team plays in the federal government in providing this particular kind of information, based on experience in a full range of communities and significant time in the field far outside the Washington Beltway. In the same vein, the team has also on occasion played an incredibly important role as an effective ombudsman for local and state entities seeking to expand broadband opportunity by assisting with navigation of the federal government.

Fourth, NTIA holds singular knowledge of vulnerable communities and how broadband networks, broadband literacy programs, and access to computing centers or devices can benefit those communities. As a result of nearly two decades of experience, the NTIA team has a remarkable knowledge of the two other critical parts of the broadband puzzle beyond infrastructure and service availability: that is, digital literacy and access to devices. Going back several presidential administrations, NTIA has had a leadership role in developing programs and policy to provide literacy programs that are essential to the meaningful use of broadband by Americans who have never benefited from the service previously. For example, NTIA funded a range of highly successful broadband adoption programs under the Technology Opportunities Program (TOP) and BTOP of the past couple of decades that were designed to provide internet education to those who did not know how to use the internet. These programs ranged from those focused on older adults without internet experience to those in very low income urban and rural communities where computer use and ownership is still not extensive. And as an important complement to these literacy programs, NTIA also developed experience and expertise in

programs to support device ownership and use, including through public computing centers in critical areas where members of the community would be likely to go to receive services.

To NTIA's credit, it recognized libraries and schools were likely locations for provision of public computing capabilities for those who cannot afford their own devices, but also that, depending on the community and with wide variation, public computing centers might be best located in facilities such as firehouses (as was very successfully undertaken in parts of West Virginia), or in church basements (as was undertaken in some rural communities in Illinois). Thanks to NTIA's efforts, many tens of thousands of Americans who did not previously have access to computers or did not have knowledge of how to use the internet have been served for the past many years through digital literacy and public computing center programs.

Frankly, these capabilities are particularly critical given the ongoing weakening of the Lifeline program at the FCC and the adverse impact on low-income Americans, including in very rural and tribal areas, who have lost access to the subsidy for Lifeline broadband and phone services.

Members of the Subcommittee, let me thank you for the opportunity to testify before you today and let me encourage you to include in NTIA's reauthorization the full range of efforts that are so critical to our national broadband future and that are so well served by NTIA's expertise and experience. My thanks for your consideration of my comments and for your commitment to reauthorizing a robust NTIA -- and to funding new broadband opportunities for our most underserved rural and urban communities -- in the best interests of a robust broadband future throughout the nation.

Mrs. BLACKBURN. The gentlelady yields back, and before we move to questions we will now recognize Mr. Pallone for his opening.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Madam Chairman. The National Telecommunications and Information Administration, or NTIA, plays a critical role in establishing and coordinating communications policies for the administration both domestically and internationally.

Given the importance of the agency, I am disappointed that my Republican colleagues have circulated a discussion draft that does little more than reintroduce Congressman Tonko's ACCESS BROADBAND Act, which the subcommittee recently marked up and has already reported to the full committee.

Mr. Tonko's bill establishes an office in NTIA to streamline the management of Federal broadband resources and I hope that this is not an effort to strip this bill away from Mr. Tonko, who worked hard to advance this important legislation.

Besides the contribution from Mr. Tonko, the majority's bill fails to provide NTIA the authority and direction it needs to address America's 21st century needs.

The administration acknowledges the need for broadband infrastructure investment. But President Trump and the Republican majority have failed to act.

We must think big in reauthorizing the NTIA. In May of last year, committee Democrats introduced the LIFT America Act, which provides \$40 billion over 5 years to deploy secure and resilient broadband to 98 percent of the country through a program administered by the NTIA.

The LIFT America Act ensures that every state has access to funds to help bridge the digital divide that remains in too many parts of this country, both rural and urban.

As the Internet of Things continues to expand, we should increase NTIA's efforts to address cybersecurity threats. We must ensure that the Trump administration's alienation of our international allies does not hamper our ability to protect an open internet and the free flow of information from Russian and Chinese efforts at the International Telecommunications Union and other forums.

We must also ensure that the NTIA has the resources and authority needed to improve public safety communications. Democratic members have actively engaged on many of these issues and we should consider them as part of any reauthorization.

Now, while limited on substance, the discussion draft does increase NTIA's authorization level to the last Obama administration request. But this does not reflect the additional tasks and duties we now seek, and unfortunately, the most important witness for this hearing—Administrator Redl—is not here to answer questions regarding whether the NTIA has the authority and resources necessary to achieve its current mission, much less the task it should be pursuing.

So before we move forward with the reauthorization, we need the current administration's views on the draft legislation.

And finally, Madam Chairman, as a result of the Trump administration's policies, thousands of children are still separated from their parents and we still do not have any sufficient answers about how they're going to reunite—reunify, I should say, these families.

Parents have been left wondering where their children are, whether they are being treated OK, and when they will see them again. Efforts of parents seeking to call their children to hear their voices and comfort them have been stymied because of unconscionable rates charged at the detention centers, and I visited one of these on Father's Day in Elizabeth, New Jersey.

And according to news reports, phone calls at one facility cost \$8 a minute, which I think is outrageous. I think it's bad enough that the Trump administration separated more than 2,300 children from their parents, but now through these detention facilities asylum seekers are being extorted. These outrageous rates are one more insult as desperate parents try to weave their way through the bureaucracy to find their children and it's inexcusable.

So I would call on the Trump administration to provide detained parents free phone calls to reach their children. It's the least they can do for a policy that never should have been instituted in the first place.

I would hope the administration would take this action on its own but, failing that, I will be introducing a bill today directing the FCC to reinstate the recent inmate calling order which covers immigration detention facilities and to promulgate rules to enable detained parents to call their children without charge.

I would also like to reiterate the request that every Democratic committee member made last week—they will hold a hearing on how these children are going to be reunited with their parents.

The Energy and Commerce Committee's oversight responsibility must include holding a hearing on this catastrophic policy and implementation failure, and I think that Secretary Azar should testify before us.

I thank you, Madam Chairman, for letting me use this time and I yield back.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

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Efforts of parents seeking to call their children—to hear their voices and comfort them—have been stymied because of unconscionable rates charged at the detention centers. According to news reports, phone calls at one facility cost \$8 a minute—that's outrageous!

It's bad enough the Trump Administration separated more than 2,300 children from their parents, but now, through these detention facilities, asylum seekers are being extorted. These outrageous rates are one more insult as desperate parents try to weave their way through the bureaucracy to find their children. It is inexcusable.

I call on the Administration to provide detained parents free phone calls to reach their children. It is the least they can do for a policy that never should have been instituted in the first place. I would hope the Administration would take this action on its own, but failing that, I will be introducing a bill today directing the FCC to reinstate the recent inmate calling Order—which covers immigration detention facilities—and to promulgate rules to enable detained parents to call their children without charge.

I would also like to reiterate the request that every Democratic Committee member made last week that we hold a hearing on how these children are going to be reunited with their parents. It would be a complete abdication of this Committee's oversight responsibility for Republicans to refuse to hold a hearing on this catastrophic policy and implementation failure. Secretary Azar must testify before this Committee.

Thank you, I yield back.

Mrs. BLACKBURN. The gentleman yields back, and this concludes our statements from our witnesses.

And at this point, we will move into the Q and A portion of our hearing and I recognize myself for 5 minutes.

At our very first NTIA reauthorization hearing, I had commented about my concern of the lack of coordination when it came to Federal resources in different agencies that were trying to implement components to address broadband infrastructure or access adoption rates, research, things of that nature.

And, of course, our draft legislation includes the Office of Internet Connectivity. So what I would like to hear from each of you is, how do you think this office can and should work to coordinate all of these efforts?

And Mr. Gallagher, we'll start with you.

Mr. GALLAGHER. Thank you, Madam Chairman. So, for purposes of bringing all of this under one roof or putting it in one place, then

having an inventory of the resources that are being spent right now is vitally important.

NTIA has accomplished similar interagency missions in the past. OSM, the spectrum agency, works that way. The way it administers its duties for ICANN are also done in interagency coordination basis.

There is a DNA component where their capabilities are prone to be able to do this very well. It's also important as a taxpayer that we see how much the dollars are, where they're going, and then what's being achieved with them, and that can only be done when there's one single view that's administered from over the top.

The encouragement that I would add as this discussion evolves is that there's a strong leadership role from the White House and from OMB.

The Office of Management and Budget has significant influence and impact on all of the agencies. So NTIA, during the time when I was there, when we would have challenges, it wasn't because of lack of will at the Department of Commerce or a lack of competence of the team that was there.

It was because other agencies were reluctant to participate because it wasn't in their mission to do so or in their interests, and I think aligning those interests through guidance to those agencies, having the White House role be strong, having the role of inventory clarification value to the taxpayer, moving that through as part of the prism that this would be looked through, would be steps in the right direction.

Mrs. BLACKBURN. Thank you. Mr. Kneuer.

Mr. KNEUER. I agree with all of that. The challenge is that the sources of funds reside in different departments sometimes.

So you have got the RUS in the Department of Agriculture. We've got NTIA and others that issue grants. You've got—even in Agriculture beyond RUS. Sometimes in DHS there are emergency preparedness funds that wind up being devoted to broadband services.

Again, I think this gets to the point of the importance of reauthorization. Giving NTIA the responsibility and ability to bring into one place all of the different ways that the government measures all of the different ways the government is spending money doesn't just help them more efficiently deploy the money through the executive branch.

But it gives the Congress visibility into how the money is being spent, is it getting to the part of the communities that it needs to. So you can make future appropriations authorization decisions based on affected information and data.

So, again, I think NTIA has the resources and experience of doing that. Having it in NTIA is the most logical of any other places that you could put it.

In terms of using that information inside the executive branch to make the right decision, I agree with Mike—a lot of that has to come from OMB riding above any of the individual agencies.

But all of those decisions will be better targeted if you have better information. And the way to do that, I think, is this legislation.

Mrs. BLACKBURN. OK. Good. Ms. Hovis.

Ms. HOVIS. Thank you, Chairman Blackburn. I'm very much in agreement here with my fellow panelists about the incredible importance of this set of functions and NTIA's ability to do so and its ability to bring to bear experience in order to do so.

And I could say that we have all noted the same challenges in this very large and complex entity that is the Federal Government with multiple entities charged with different kinds of responsibility for funding, mapping, engaging what is happening with regard to broadband.

I think that better and more comprehensive and more centralized collection of data and accurate data and granular data would be a massive, massive contribution to building important information and understanding of what is actually happening with regard to broadband.

And if we are able to understand through a central entity, such as NTIA, not only what all the existing funding programs are and what they are funding and where, but also where there has been verification and enforcement that that funding was used as intended and that the capabilities that were intended to be funded by the Federal Government were actually deployed as well as accurate and granular mapping. It would be an enormous contribution and enable development of very good policy.

Mrs. BLACKBURN. The gentlelady yields back. Mr. Doyle, you are recognized for 5 minutes.

Mr. DOYLE. Thank you, Madam Chair. Mr. Kneuer and Mr. Gallagher, as former NTIA administrators, so I am just curious how you think the NTIA will be navigating upcoming global internet governance discussions such as the ITU's upcoming conference in Dubai.

Given our administration's strained relationship with our allies, its increasingly hostile relationship with China, and our relationship with Russia, which I am really not sure how to characterize, how do you think that's going to go?

Mr. KNEUER. Traditionally, the ITU and some of the telecom issues really have been driven by the technical staff and, with a few exceptions, the—

Mrs. BLACKBURN. Mr. Kneuer, can I get you to talk directly into that mic? Thank you.

Mr. KNEUER. Yes. Sorry. The broader geopolitical issues rarely, but not never, get involved. I think the ability of NTIA to collect the technical expertise of various government agencies, so whether it's been the Defense Department or the intel communities or others who rely on spectrum and telecommunications engage in sort of robust bilateral discussions with our allies and with interested parties has been sort of the way this has gone.

So even though the meetings themselves may take place in Dubai, our diplomats and NTIA staff have been, typically, in pretty constant contact with their counter parties in other governments.

So it's not to say that the geopolitical challenges don't enter into these multilateral negotiations. These are, after all, very often U.N.-sponsored delegations.

But I think the technical matters typically speak for themselves and historically and, hopefully, ideally the larger geopolitical issues stay in the background.

Mr. DOYLE. Thank you. Ms. Hovis, given the success of the Obama administration's BTOP program, do you think that the type of investments laid out in Ranking Member Pallone's LIFT America Act or the share of the spectrum auction revenue set aside for wireless broadband deployment by the AIRWAVES legislation would significantly contribute to closing the broadband divide in this country.

And at what point do you imagine we will close the broadband divide in this country if we simply continue on our current path?

Ms. HOVIS. On our current path, we are not going to close the divide and we may actually, in some areas, exacerbate it because the realities of the economics of broadband are that private investment funds will go where they will see the greatest return.

That's how the private sector works. It's how we want it to work and how we want our system to work, and that means that we are likely to see increased investment in enhanced capabilities—5G, more deeper fiber, et cetera—in certain kinds of suburban and urban areas, in certain urban areas with high income levels, average income levels, for example, but not in rural areas, not in areas of low population, and not in certain areas of low income.

And as a result, we may actually see a significant exacerbation of the digital divide over time. So yes, I very much agree that the LIFT America Act and certain kinds of appropriation, the funding for rural broadband and for solving urban deserts would be enormously helpful and I think, in fact, it's critical.

And the track record has been very, very solid and I hope—my example of the Appalachian community in western Maryland that I talked about is one of hundreds of examples, I think, of communities that have been enormously benefited by that investment and by the way it was administered by NTIA and I certainly personally hope we'll see a good deal more because I spend a lot of my time on the road in rural America and I see enormous, enormous gaps that we have a long way to go in filling.

Mr. DOYLE. Thank you very much. Mr. Gallagher, I know you're here in your capacity as a former NTIA administrator, but you're always the CEO of the Entertainment Software Association, which represents the video game industry—an industry that's now larger than the film and music industries combined.

Video games these days outperform the biggest Hollywood blockbusters and, increasingly, video games are downloaded online, and online games are become spectator events and the future of the industry seems to be shifting from consoles to the cloud, all of which rely on a free and open network that is fast, has low latency and high capacity.

I know ESA filed in federal court seeking to intervene in the case against the FCC's repeal of net neutrality rules. That filing said, "absent these protections, ESA and its member companies will have no effective legal recourse against broadband provider conduct that impairs consumers' online video game experiences."

So my question is whether you and your association oppose the repeal of the net neutrality rules as your association's legal filing indicates and whether you support restoring those rules, as your filing indicates, as I am trying to do with my CRA resolution.

Mr. GALLAGHER. First, I really enjoyed the introduction to the question.

[Laughter.]

Terrific. And then as to the specifics on net neutrality, yes, we filed the motion to intervene in that litigation because it's important for us, on behalf of our members, to make sure that we do have an open and free and high capacity and high quality internet available for gamers and game makers. We've been clear about that for years.

And what we've also seen is that the pendulum swinging back and forth between whoever controls the pen at the FCC causes uncertainty for investors.

It causes uncertainty for those who are seeking to make the economy of tomorrow happen in a digital way, and the world is very much connected. These opportunities need to be present and thriving here in the U.S.

What we've done is—

Mr. DOYLE. Madam Chair, I see our time has expired. I would like to ask unanimous consent to add ESA's court filing to the record.

Mrs. BLACKBURN. Without objection.

[The information appears at the conclusion of the hearing.]

Mrs. BLACKBURN. Mr. Lance, you're recognized for 5 minutes.

Mr. LANCE. Thank you, Chairman. Mr. Gallagher and Mr. Kneuer, you both mentioned in your testimony the importance of giving the NTIA more resources. Could you please expand on this, using your own experience leading the agency and in the context of how its mission and duties have evolved since the last time it was reauthorized?

I am also interested specifically in your perspective on whether or not these additional resources are necessary to implement the Office of Internet Connectivity and Growth as the NTIA has indicated to me?

Mr. Kneuer.

Mr. KNEUER. So I think there is adequate staffing. As the BTOP program winds down, those moneys are spent. The staff that were administering that are the same staff that I think would likely be involved in the new office contemplated by this legislation.

I think the important thing in terms of the amount of funding—and I do not have visibility into the current budgets of NTIA and I wouldn't want to speak for precise dollar figures—but the way to think about it is that all of the money that we are putting into NTIA to drive broadband really needs to be thought of as seed capital.

By having better information, we are going to more fully leverage the amount of money that comes from whatever variety of sources there are.

The economic growth and productivity gains that come from broadband being deployed in communities that don't otherwise have access to it, that has to be kept in mind and focused as the objective for budgeting.

So while I don't have the great sense of what the precise numbers are, I think the exercise that needs to be undertaken is making sure that the money that we spend we can look at and find a

direct linkage to either—it's going to more than be offset by savings in the efficient allocation of other resources or it's going to generate economic growth far in excess of the money that we devote to the project.

Mr. LANCE. Thank you. Mr. Gallagher.

Mr. GALLAGHER. I would focus on three areas, and the overarching focus is where do we need NTIA to take us over the next 10 years, if that's the relevant time frame for the committee, and then does it have the resources to accomplish those key focuses.

The three that I would point to, one is international, two is OSM, or the Office of Spectrum Management, and third is a coordinator role across the Federal Government.

And the roles have changed. Now, many of these functions remain the same. They have the same office names as when I was there, as when John was there, but their challenges are quite different.

Everything that happens now is global. Everything that our industry is engaged in is worldwide in nature.

That's the thinking process, and when we were at the Department of Commerce, one of the key talking points and things that we'd repeat, 95 percent of the world's customers live outside the United States.

So NTIA should be focused and be resourced to be very effective in that environment. One thing I would add to this is it's been brought to my attention that a level of the position within the Department of Commerce oftentimes can be problematic in dealing with foreign governments—that if there was a higher level to the position like under secretary as opposed to assistant secretary, that would create greater impact for Secretary Redl as he goes about his duties.

Second is OSM. I believe the Office of Spectrum Management is using the very same equipment that they used when I was there 10 years ago.

The return we've gotten from sound spectrum policy is enormous. More investment and then making sure they have the resources to be even better at their job is money well spent.

And then the final point is on this coordination role. The more we ask NTIA to do in that regard you need to make sure that there's enough resources—primarily, people—to make sure that that happens, and again, I look to Office of Management and Budget and this committee to set where those levels are.

Mr. LANCE. Thank you very much to the distinguished panel and, Chairman, I yield back 46 seconds.

Mrs. BLACKBURN. The gentleman yields back. Mr. Loeb sack, you're recognized.

Mr. LOEBSACK. Thank you, Madam Chair. I really appreciate, obviously, the testimony today. I am an Iowan. I've got 24 counties—a lot of rural areas. I don't know what the total square miles is. It's something like 12,000 or so. It's a pretty big area—and I get around every weekend, and I know for a fact that our coverage in Iowa isn't anything like what the FCC says it is officially.

So I've been very interested in making sure that we have accurate data when it comes to where broadband is deployed around the country.

And there is bipartisan and bicameral agreement that the maps the FCC is relying on now are flawed and quite inaccurate, and I did introduce the bill, the Rural Wireless Act, with my good friend from Pennsylvania, Ryan Costello, to improve the reliability and the validity of the data needed to create the maps and I am really happy it was passed—included in the RAY BAUM'S Act that the President signed into law earlier this year.

So I am really hoping that better maps are on the horizon. A lot of folks in Iowa, all across the country in rural areas, are hoping that better maps are on the horizon.

Hope isn't enough. I am glad the discussion draft reaffirms the NTIA's role in producing a national broadband map that's accurate.

However, we may need to work together as the bill progresses to ensure that we are doing all that we can to ensure that the maps are as reliable as possible.

And, Mr. Gallagher, just a couple of quick questions for you today. I do appreciate your comments and your testimony about the need for more granular data, particularly in rural areas where a census block isn't necessarily the right geographic measurement to reflect the realities of broadband availability.

So, Mr. Gallagher, I would just like to ask you first what obstacles might NTIA face in collecting such granular data?

Mr. GALLAGHER. Well, the first obstacle is it may not exist by doing it, like, household to household and so looking for the sourcing on the data is really important.

One area that I would look to for all rural areas, not just in Iowa but around the country, is you do have state Public Utility Commissions that are in charge of wired communications and increasingly have been involved in deployment of public safety networks and other areas where their maps may be supplemental and offer more granular data because it is their role to fundamentally be local.

Mr. LOEBSACK. Do you have any other ideas—that was my second question, actually—ideas about how to produce better data?

Mr. GALLAGHER. I think that there are increasingly applications and technologies that are developed that do miraculous things for very low cost and those—a survey of those mapping technologies, a survey of elements that follow the development of broadbands so, like, derivative types of activities, would be able to develop the contours of where broadband exists if you know what people are doing.

Like, for example, if they're playing Pokemon Go they must have access to the internet because their phones are connected—those types of things might be where the data could be more practically extracted at a lower cost.

Mr. LOEBSACK. OK. That's great.

Well, that's pretty much what I have as far as questions and comments. This is something I've been beating sort of like a dead horse for quite a while.

The chair knows that and—but we do have good bipartisan support for this and I want to make sure that the FCC does the right thing so that we know where the heck we have coverage and where we don't.

And I don't want to create any false illusions out there, or false expectations, if you will, on the part of folks in Iowa and all around rural America.

When somebody says, oh, there's 96 percent coverage, we know there's not, and so we have to make sure that we have some truth in advertising when it comes to finding the ways to measure this and get the accurate data really, really quickly.

So thank you very much. I yield back my time.

Mrs. BLACKBURN. The gentleman yields back, and I just got a notice that votes will come sometime between 3:10 and 3:25 so we will try to complete our hearing before then.

Mr. Johnson, you're recognized for 5 minutes.

Mr. JOHNSON. Thank you, Madam Chair, and thank you for holding such an important hearing.

NTIA has not been reauthorized since 1992 and it's essential that it has the funding and tools it needs to accomplish its objectives. I am particularly pleased to see the components relating to the broadband mapping and deployment issue.

My legislation, the Mapping Now Act, which was included in the omnibus, reasserts NTIA's authority on broadband mapping. It is essential that we have an accurate map showing areas that are unserved and underserved so that we know where available resources should be focused.

This discussion draft tasks NTIA with facilitating more accurate granular maps of broadband coverage with input from the FCC and other federal resources in addition to states and public-private partnerships.

NTIA is in a good position to compile data from multiple sources, not just the FCC's Form 477 data, that would help create a more accurate and complete picture of broadband coverage.

I am hopeful that this legislation would provide NTIA with necessary funds and authority to work with other agencies and implement creative solutions for broadband mapping and to break down the barriers to broadband deployment.

So to my questions—when NTIA was first charged with creating the national broadband map under the 2009 American Recovery and Reinvestment Act, the data on the map was not always correct.

In many cases, that is because it was reported on a state-by-state basis and each state had a different way in which it collected the data.

This often led to the data being unreliable. For example, at one point it showed that one state in the Northeast had full satellite coverage but the next state that shared almost the same latitude and longitude had no satellite coverage.

Now, I don't think it's the case that Vermont and New Hampshire can be so completely different in terms of their ability to be covered by satellite.

So my question is this, and we'll just go down the line starting with you, Mr. Gallagher. How can NTIA ensure that the mistakes from the past are not repeated with any new mapping efforts?

Mr. GALLAGHER. The first place to start is to ask the question, put out an NOI saying, all right, this was done in the past—what are the mistakes—develop an inventory of those and an under-

standing, and then go through and systematically can be done and, of course, how much it costs in order to be able to close those gaps.

That's the most important thing is just to ask the question and understand where you came up short, be very honest about it, and then just get back in there and do it again.

Also, in the span of time since the map was first developed there may have been additional technologies that have been—become available or applications or services that could be done—where this could be done very cheaply.

Just one example is we developed a map of our own industry in the U.S. We've had this need—it's called areweinyourstate.org—and we found that there were over 3,000 companies in our industry.

Spread them out, and we organized them by congressional district. Now, this was done with manual labor and a great outside—a great intern on the inside and a great partner in an outside vendor and done at very reasonable cost.

What's being done here is much more complex, but it just shows that the push of service quality means there could be ways to close those gaps.

Mr. JOHNSON. Mr. Kneuer.

Mr. KNEUER. Yes. I also think there are—different institutions have different incentives to gather this information for their own purposes, whether they are commercial purposes, different government agencies have different access to information, whether it is the—not just the existence of service but are there network elements under the control of the government that might be useful in providing additional services, whether it is fiber links from the Energy Department or towers controlled by public safety or natural resource agencies.

So, with a lot of what we've been talking about this afternoon, it's NTIA's ability to survey all of those different sources of information, whether they are in disparate government entities, government agencies, whether they are held by the carriers, whether they are held by application providers who, for their own commercial interests, have a real monetary incentive to figure out where the coverage is and where the gaps are, to gather all of that and synthesize that in very much the same way.

It's going to be very much, and I think it is a perfect complement to the Office of Internet Growth and Connectivity. It is getting access to each of these different constituent pieces—sources of funding, sources of information—and synthesizing them together so that you don't have these—there should be obvious failures if a satellite sees the Northeast of the United States the same, right. So those sorts of things.

By having, collating, overlooking different sources of information you can correct those areas.

Mr. JOHNSON. Thank you. Ms. Hovis, sorry I didn't get to you. But Madam Chair, I will yield back.

Mrs. BLACKBURN. The gentleman yields back. Ms. Eshoo, you're recognized for 5 minutes.

Ms. ESHOO. Thank you, Madam Chairwoman. I noted that when you made your opening statement you spoke about this being a bill

for rural Americans and I think that we all hope that that will really be the result.

But while this bill provides funding, I think it's important to point out that it doesn't direct the agency enough on either the authority or the direction on how to use the funding to address the needs of Americans in the digital age.

So we've got our work cut out for us here. I want to thank the three witnesses for being here today. I want to thank you for your public service.

This is my 24th year on this subcommittee. It's kind of extraordinary for me to use that number. It's hard to believe 24 years.

But I think this is the first time in terms of a reauthorization act that we don't have the agency represented here. I think it's wonderful that you're giving your opinion about what you think the agency should do. But I find this to be highly unusual.

Now, I know David Redl was here in March. But I still think, Madam Chairwoman, that it's very important and it's still really appropriate to be discussing the draft of a reauthorization with someone—with a key official—I think David Redl—an NTIA official on this.

So let me get to my questions. But I wanted to point that out because it's the first time that I've ever experienced this. So it is what it is.

But I think that we need to make sure that NTIA comes and when we have a review with the key person from there.

So to Mr. Gallagher and Mr. Kneuer, do you know what steps the assistant secretary is taking relative to overseeing FirstNet and its contract with AT&T?

Mr. GALLAGHER. I do not.

Ms. ESHOO. Do you, Mr. Kneuer?

Mr. KNEUER. Not with specificity.

Ms. ESHOO. OK.

Mr. KNEUER. Just in terms of how the role of NTIA overseeing FirstNet, which—

Ms. ESHOO. Well, we know that they oversee it. I want to know—because I think you're here in some way, shape, or form to speak for NTIA.

Do you know what the current NTIA plans are to address the gaps between the maps? It says show coverage and the actual coverage of high-speed broadband.

Mr. KNEUER. I do not.

Ms. ESHOO. Does anyone know?

Mr. GALLAGHER. No.

Ms. ESHOO. No one knows. OK.

If this authorization were to become the enacted budget for NTIA, do you know what portion of the new resources would be aimed at improving NTIA's oversight of FirstNet?

Mr. GALLAGHER. I do not.

Ms. ESHOO. Anyone know?

Mr. KNEUER. No.

Ms. ESHOO. Maybe to Ms. Hovis—do you know what the specific challenges are that NTIA faces in mapping broadband coverage accurately today and are they technological?

Are they methodological, and what do you think that they should be doing to get an accurate study?

Ms. HOVIS. My primary concern about the broadband mapping is that some of the underlying data is at such a low level of granularity that we don't really have anything like an accurate picture. The big part—

Ms. ESHOO. Well, I know that, but I am asking what—do you think it's beyond technological or methodological? How are we going to get accurate information?

If we don't have a roadmap, then we don't know where we are going and what we are doing.

Ms. HOVIS. The data—

Ms. ESHOO. That's what a roadmap is. Or the map, in this situation—so what do you think the main issue is that we should be pursuing?

Ms. HOVIS. From my perspective, the main issue is that the data collected by the FCC through the 477 is not giving us sufficient information. We are getting—

Ms. ESHOO. And the source of that lack of being able to get it is what? What do you recommend?

Ms. HOVIS. The information is self-reported by the providers and it is frequently self-reported at the level of if a single location within a census block is served, the entire census block can be shown as served, which I sometimes think of as allowing my high school daughter to—

Ms. ESHOO. Well, I remember years ago, in the Bush administration, if it was in a zip code then everyone was covered, which—this is like Pete and repeat.

So, well, I'm happy that you all came. Thank you again for your service and, Madam Chairwoman, I think that we need the assistant secretary to come in and speak about the reauthorization. I think that's very important.

With that, I yield back.

Mrs. BLACKBURN. The gentlelady yields back.

Mrs. Brooks, you're recognized for 5 minutes.

Mrs. BROOKS. Thank you, Madam Chairwoman. Thank you so much to all of our witnesses for being here today.

Something that we heard about at a earlier NTIA hearing had to do with the fact that we are fairly behind the race for 5G of South Korea, Japan, and other countries.

I am curious, Mr. Kneuer, in your opinion, how are we doing in the 5G race?

Mr. KNEUER. I think 5G is in its infancy where it's sort of the beginning of the beginning, not even the end of the beginning. But I think 5G is sort of the cross-cutting issue that answers much of what we've been talking about here.

For the first time with 5G, wireless applications will give the same kinds of speeds and comparable speeds as landline applications at a much, much lower cost of deployment and much more readily suited to serve hard-to-reach areas.

So the issues for NTIA around 5G are recognizing that but very much it's spectrum to spectrum. We need low-band spectrum. We need mid-band spectrum. We need high-band spectrum.

With all of that, I think the inherent incentives in the U.S. economy and in the U.S. telecommunications marketplace give us a key advantage over some of the countries that some people may look at and say that they're "leading."

If you have got a single carrier or a couple of dominant carriers, the U.S. market has been one that has been a massive incentive for as much investment in as many carriers as possible.

I think if we repeat those examples and provide the spectrum that allows each of our main market participants to continue to compete, we will have the most robust and the most widespread 5G networks in the world.

Mrs. BROOKS. Does our current discussion draft that we are discussing address the issues that you're referring to? I am curious that—of each of the panel members.

Mr. KNEUER. I think the establishment of the Internet Connectivity Office will help in identifying where those issues are.

The issues around spectrum in general, which may not be specifically called out in this draft but are explicit in the reauthorization of the agency and the things that NTIA does, I think so.

Mrs. BROOKS. Does anyone else have a different opinion or further opinion on 5G?

Mr. Gallagher.

Mr. GALLAGHER. What I would say is I would echo John's thoughts—that we are at the very beginning of this—it's way too early to declare a winner—and that in the U.S. we have all of the elements to be fantastically successful in the deployment of 5G.

When you look at the demand for the services, like, what's the extra speed going to mean, we'll be able to translate that into economic value a lot faster than other economies around the world and that will be the engine that pulls this in a very commercial way to worldwide success.

Mrs. BROOKS. Thank you. Ms. Hovis.

Ms. HOVIS. Congresswoman, I think this is incredibly important, and I actually just returned a matter of days ago from South Korea where I spent a good amount of time looking at infrastructure both in the cities and, even more importantly, in rural areas.

And I don't think we are right at the beginning. We have not lost anything, and we are well positioned to win the race for 5G.

The one thing that I noted in South Korea that I thought was so important is that their rural areas will get better wireless and better 5G than our rural areas will because there's existing infrastructure there, and that speaks to the reauthorization bill and the need for more rural infrastructure and fiber for our communities and that is what will enable 5G because there will be no wireless without wires to support it.

Mrs. BROOKS. OK. Thank you. Shifting gears a moment to—we learned this in dealing with a bill to reauthorize the Poison Control Center in our work on opioids out of this committee.

But I learned about problems relative to our 911 services and it caused me to be concerned as to whether or not other emergency lines like suicide hotlines, veteran crisis lines, apparently, if someone were to call they aren't necessarily—the centers aren't locating the calls.

They're taking what area code is showing up on the phone rather than geolocating the actual phone.

I think most people don't assume that's what's happening. So while I have a 317 area code here and I were to make a call, I would be routed improperly, or it could be.

Are we going to be fixing issues like this and is NTIA—what will their role be? If any of you have an opinion on that.

Mr. GALLAGHER. What I would offer is that so much of what you just described those challenges—they lie in the province of the states and how they deploy 9-1-1, and then the FCC and its role in overseeing how that works.

And so it's not in the sweet spot of what NTIA does except for ITS, which is the lab that's run by NTIA. They do research on these types of things and how to improve accuracy and performance.

Mrs. BROOKS. OK. Thank you. I yield back.

Mrs. BLACKBURN. The gentlelady yields back. Mr. McNerney, you're recognized for 5 minutes.

Mr. MCNERNEY. I thank the chair. I thank the witnesses.

I apologize for missing your testimony but you did have written statements, which we reviewed beforehand.

I am concerned about the security risk posed by the vast number of devices coming to the market on IOT, and I have introduced legislation to improve the security.

Mr. Gallagher, NTIA's recent botnets report outlines a series of goals that are intended to give stakeholders guidance on what steps they should be taking to secure their systems networks.

What are specific resources the NTIA needs to ensure that meaningful action is taken by its stakeholders?

Mr. GALLAGHER. I think, unfortunately, the resources are going to be more necessary by those that need to implement the recommendations than those that formulated them themselves.

The Federal Government has had many challenges when it comes to implementing its own solutions on a technical basis. This is going to require action in the marketplace and by manufacturers and then, ultimately, by consumers to make sure that their behavior reinforces the values in those reports.

Mr. MCNERNEY. Thank you. Mr. Kneuer, the NTIA has held a series of multi-stakeholder meetings on IOT security upgradeability and patching. The most recent one was held last November.

Are you aware of what progress the NTIA has made with this multi-stakeholder process since November?

Mr. KNEUER. I am not familiar with the details of that particular multi-stakeholder process. But it is indicative of the contribution that NTIA can make as sort of standing as an intersection between having lots of communication with the market participants and the commercial entities and, at the same time, having visibility through their contacts with the national security intel Homeland Security agencies where they can serve as a conduit of sort of identifying threats, passing information back and forth, and serving that sort of a function.

Mr. MCNERNEY. OK. Mr. Gallagher, you're shaking your head yes?

Mr. GALLAGHER. Well, I am just agreeing with John.

Mr. MCNERNEY. OK. Well, as an engineer, I think it's important that the agencies principally responsible for advising the President on telecommunications and information policy be equipped with the technical expertise needed to develop policy.

Mr. Gallagher, how many engineers does the NTIA currently employ?

Mr. GALLAGHER. I don't know the answer to that.

Mr. MCNERNEY. Well, earlier this month before the Senate Committee on Commerce, Administrator Redl said that, "I believe the greatest challenge for advancing IOT will be cybersecurity."

How many engineers does NTIA have on staff that would specifically work on cybersecurity?

Mr. GALLAGHER. Again, that's specific information. I am sure it's available from other sources but I don't have it.

Mr. MCNERNEY. Mr. Kneuer, in reauthorizing the NTIA, it's critical that we understand what resources the agency currently allocates toward technical expertise and I am hoping that you might be able to provide me with more specific answers for the questions that I just asked Mr. Gallagher.

How many engineers specifically focus on IOT security?

Mr. KNEUER. So I don't have visibility into the number of engineers assigned right now. When Mike and I were there, there was something like 180 engineers in the agency.

But I think what is important is that NTIA's access to technical expertise is not limited to its in-staff resources. So there are vast resources that NIST, which is the flagship government technical agency—there are resources within the NSA. There are resources within the Defense Department that they're able to access, as I've said, when they—and then share that information with the commercial sector and also help identify vulnerabilities and events that are taking place in the commercial environment, and communicating that into the broader government-wide effort, and I think it's going to have to be a government-wide effort. This won't be an NTIA only solution.

Mr. MCNERNEY. Well, OK. I will grant you that.

Unfortunately, NTIA doesn't have anyone here today. So we can't really get enough visibility to determine if they have the resources that they need.

Ms. Hovis, could you discuss the importance of the public-private partnerships in rural and underserved broadband deployment? I have a lot of that in my district.

Ms. HOVIS. Well, at its core, a public-private partnership helps to change the economics of broadband in an area where the economics simply don't work.

Ideally, there would be private sector investment everywhere and there would be rationale and economic viability for private sector investment.

But that's, unfortunately, not how infrastructure works of any sort, particularly in rural areas, and there are simply going to need to be places where the public sector has a significant role.

The places where that's been most successful there has been collaboration between public and private, and frequently, efforts on the public sector side at the Federal, state, and local levels to col-

laborate with the private sector to solve these problems and to improve the economics of the build out.

Mr. MCNERNEY. Thank you. I guess I better yield back.

Mrs. BLACKBURN. The gentleman yields back. Mr. Costello, you're recognized for 5 minutes.

Mr. KNEUER. Sure, and with regards to the specific case that was an enforcement action, not surprised that NTIA wasn't specifically involved in that part of the negotiation.

But I think NTIA does sort of sit in the middle of the intersection of national security and our communications networks.

It would be a partner with other agencies within the Department of Commerce, the Bureau of Industry and Security, which has a specific mission to look after cross-border trade and technology that involves our national security—the International Trade Administration, which is responsible for our international trade commitments, but most importantly and, I think, most relevant, as the agency that has direct contact with the carrier set that is relying on these network elements that may be subject to vulnerabilities.

So its policy coordinating function through its natural interface with the defense, intelligence, and homeland security agencies with the national security inside the White House and with its counterparts inside the Commerce Department. So—

Mr. COSTELLO. So you, likewise, agree that having NTIA lead an interagency effort to strategically share supply chain threat information with the private sector should be one of its core competencies?

Mr. KNEUER. Yes.

Mr. COSTELLO. Mr. Gallagher, in your testimony you touched upon the benefits of increased unlicensed spectrum use and successful spectrum sharing in the 5 gigahertz band, starting in 2003.

Can you expand on that example and talk about some of the future benefits of unlicensed spectrum use in the context of 5G deployment?

Also, in your opinion, what, if anything, should Congress do to leverage NTIA's expertise and role in unlicensed spectrum use?

Mr. GALLAGHER. So unlicensed spectrum has been one of the gold mines of our tech economy over the last 15 years. If you look at wi-fi and how pervasively we use it in our homes and our businesses, it's been just a powerhouse of very, very cheap, very efficient transmission of data.

Now, ultimately, all of that ties back to a fiber architecture and gets transmitted over more robust networks. But the promise of unlicensed has been proven to be very, very true and very real.

So finding more of that it makes great sense because if you have encountered the interference in your home from multiple devices, as we all carry more and more of them, we access richer and richer services, it does put a load on those and there is a potential for interference.

So more of that type of spectrum will continue to feed the growth in that area, lowers the burden on our license services.

I think the aspiration of unlicensed that we have yet to achieve is I would call carrier class unlicensed spectrum use where you would have, basically, the quality of a licensed service done in an unlicensed way.

That remains something that's out of reach at the moment. It hasn't really been delivered yet in the marketplace.

In the times when John and I were serving it looked like that was going to happen, and it hasn't really come to fruition. But that's an area of further explanation.

Mrs. BLACKBURN. The gentleman yields back.

Mr. Butterfield, you're recognized for 5 minutes.

Mr. BUTTERFIELD. Thank you very much, Madam Chairman, and thank you to the three witnesses for your testimony today.

We have votes around 3:15 and so I am going to cut mine short and not go through the full 5 minutes, Madam Chairman. But let me just ask the three witnesses, I am from a rural low income community in eastern North Carolina and I think we can all agree that we have a digital divide in this country.

It's no question that affluent developed communities have broadband. Low income rural communities, many of them, do not.

Can you just tell me, each of you, in your own words in plain English why we have this digital divide and what we can do to bridge this divide and bring it to an end in my lifetime?

Ms. HOVIS. Congressman, I think you articulated the problem exactly right. The challenges that private investment goes—it follows the money and where the opportunity is and we need to build bridges in terms of investment and funding at the state, local, and federal level to support private investment and to add to it and to make it economically viable and interesting for the private sector to support markets where they might not otherwise go and to make it possible for other entities to provide services in those markets where the private sector may choose not to go and that, in my opinion, should include counties and municipalities and nonprofit and public-private partnerships and collaborations because we need to use every tool in the toolbox if we are going to bridge those gaps.

Mr. KNEUER. I will just keep banging on the 5G drum for a minute. There is the reality of the economic return, based on the cost of the deployment of the networks. In the very high cost for hard-to-serve areas, the economic incentive breaks down on delivering service to those areas.

As 5G becomes a reality, that economic equation will change dramatically and I think we have a promise of wireless networks closing dramatically the gaps that would need to be filled by the kinds of public and private partnerships and by government support.

Mr. GALLAGHER. And I would just add my voice to the solution will be wireless. It will be a lot lower cost per person or per unit of data than what has been deployed in the past.

The technology has come to this stage where now we carry devices in our pockets that 5 years ago would have cost tens of thousands of dollars.

Now, there are new versions coming out every year. Flat screen TVs used to be ridiculously expensive. They're now borderline disposable, and these types of end of the network uses for broadband—they've brought down the cost in the home for those that need the service in rural areas as well as in the networks themselves.

So as we continue to get better and better at better technologies, richer technologies, lower cost devices on the other end, it'll help close that gap.

Mr. BUTTERFIELD. All three of you agree 5G is the future?

Ms. HOVIS. If I may add, Congressman.

Mr. BUTTERFIELD. Yes.

Ms. HOVIS. I very much agree with my colleagues here. We are all extremely optimistic about the wireless future. But there is no rural wireless without a wire to support that wireless service and that means we can't just say, well, we don't have to worry about wired infrastructure in rural areas because wireless will take care of it.

That wireless component is only the very end of the network and if we are going to give folks in rural communities the kinds of services that we all expect every day in our urban communities, we are going to have to make sure that wire is there to support next-generation wireless deployment, and we've got a long way to go on that.

Mr. BUTTERFIELD. Thank you.

Mr. GALLAGHER. I would just amend by saying wireless back haul is in service now and is a step toward helping close that gap that exists on the wired space.

Mr. BUTTERFIELD. OK. All right. Thank you, Madam Chair.

Mrs. BLACKBURN. The gentleman yields back. Mr. Guthrie, you're recognized.

Mr. GUTHRIE. Thank you. Thank you very much, and I will be brief too because I know we have at least another question over here.

So, many counties regionalised their dispatch centers, and not only does it allow for pooled technical resources—9-1-1 services is what I am talking about—it also provides for the redundancies in the system so that if one county dispatch center shuts down, the other can cover for them because they share the same equipment.

As we work for further deployment of NG 9-1-1, how can NTIA work to support the ongoing and future initiatives of these regional dispatch centers.

I will just open it to anyone. Does any—

Mr. GALLAGHER. The first thing I would say is convening, and that's a very strong power of NTIA historically is bring people together to share best practices so that as the public safety law enforcement network responsible leaders, when they get together they're able to see that there's a cheaper and better way of doing something, they learn that from one another.

The other, again I would point to is ITS as NTIA does do research on the telecommunications services themselves and potentially could assist in formulating lower cost ways or more robust ways of providing the same service.

Mr. GUTHRIE. OK. And I know there's been discussion in elevating the NTIA administrator to an under secretary, and somebody else may ask more about that.

So but I want to focus on if the elevation of the title adds to what we may call gravitas, internationally, what would it do interagency for the deployment of Federal spectrum and auctioning Federal spectrum?

Mr. KNEUER. I think it's directionally helpful. As a practical matter, NTIA functions inside the department as an under secretary already. There's no layer in between NTIA and the secretary.

Typically, an assistant secretary might report to an undersecretary, who then reports to the secretary of commerce. NTIA actually has one step elevated stature in that it also reports dotted line directly to the President.

So in terms of the governance, it's functioning as an under secretary already. But in terms of protocol and interagency negotiations, if you're synced up with an assistant secretary at the Defense Department who then is talking to an under secretary before they get to the secretary, it's just one more layer in between.

So I think there is, it would be directionally helpful inside managing the interagency process and it would more accurately reflect where the agency sits within the department by making an under secretary.

Mr. GUTHRIE. So thanks.

And then really quick also, mapping. I know we've talked about mapping and it's been addressed. But I would like to share my support for more granular mapping that's been talked about and better data and better verification as well.

Do you have suggestions for improving verification strategies? I know you have talked a little bit earlier. I know I was in and out with another meeting, Ms. Hovis, if you—

Ms. HOVIS. I don't know how this happens, but I think that—wherever I travel I speak to stakeholders and officials in rural communities who say to me, why is the map showing us as served when we know we are not served, and there needs to be some kind of formal mechanism for feedback and opportunity to challenge the map where it's not accurate and resources for the map then to be corrected because I understand it's expensive and difficult for providers to provide certain kinds of data.

But the rural communities, the rural businesses that are suffering from the fact that the map has not got accurate data and therefore they're not eligible for certain kinds of programs or certain kinds of support at the state and Federal level. Very, very frustrating for them, and it is the Federal Government that is putting this data together.

Mr. GUTHRIE. Well, that's important, too, because my area it has rural areas you just look at and say you know there's issues that need to be addressed. My home town is Bowling Green, which is kind of tied in with our chairwoman's community—boom town of Nashville. We are a boom town as well.

And you hear from people who are developing and trying to accommodate the growth and stuff moving forward is that a lot of people won't want to move into certain neighborhoods or they can't develop areas because there's no profit. If you're going to build a nice home you're moving in you want access to broadband.

So that's limiting what can happen. But if you look at a map, you would say that Warren County, that has gone from 70,000 to 125,000 in the last 20 years, would be served.

But it depends on where you live, and so that's what's important. And I was going to not use all my time but I almost did.

I yield back.

[Laughter.]

Mrs. BLACKBURN. The gentleman yields back. Mr. Shimkus, you're recognized.

Mr. SHIMKUS. Thank you, Madam Chairman. Great hearing. It's good to see you all again.

I am going to start really following up on my colleague, Mr. Guthrie's question on the under secretary debate and is—because you talked—Mr. Kneuer, you talked internally.

Let's talk externally. We've been involved in the NATO parliamentary assembly. I do some stuff in the Baltic regions. Titles matter internationally.

Anyone want to comment on a title change just for the international aspects of what NTIA has to do?

Mr. KNEUER. Yes. I think it's more relevant in the international context than in the interagency domestically. We can sort of manage that here.

In my experience traveling, they were very confused by the NTIA role and the title, are you the minister of communications, which in foreign countries could be one of the leaders of the cabinet, right.

So some clarity with an under secretary helps them understand it. It gives commonality with our counterparts in the State Department who travel internationally. There's more of a clarity of what the role is.

So I think the elevation of the title actually probably carries a little bit more currency in international negotiations than it does—you can manage it here. You just have to—

Mr. SHIMKUS. Right. Mr. Gallagher, you seem to be shaking your head. Do you agree with that analysis?

Mr. GALLAGHER. Yes. I think 90 percent of the benefit of this is coming in the international arena and it comes from respect from the foreign delegations.

It's very important for us to keep in mind that they don't have the turnover we do. Our political system—we move through political appointees. There, they tend to be there for very long periods of time.

The title helps cut through that gap and experience.

Mr. SHIMKUS. Great. Thank you. And I want to focus on a part of the discussion draft, which is WHOIS database, and I—many of you follow me. I was involved with the IANA on transition and ICANN debate, and there was kind of a commitment during that discussion that the WHOIS database would continue.

Now, throw in the uncertainty with the European Union and the general data protection regulation.

Can you talk to me about the importance of keeping the WHOIS database and this European concern and how we crunch through this?

Mr. Gallagher.

Mr. GALLAGHER. It's absolutely vital that the WHOIS database is taken very seriously and continues to have the emphasis that it has had for a very long period of time.

In virtually every bilateral meeting that I had or any other international meeting, the Department of Justice, Department of Homeland Security, the intelligence community, the White House all the

way through made sure it was always on our agenda at NTIA to underscore the importance of WHOIS.

That's paramount that that continue, even with any conflict with the GDPR. The conflict is something that is misplaced if that's the way it's perceived.

The mission of WHOIS to intellectual property holders, law enforcement, is paramount to whatever those concerns might be about individual privacy.

Mr. SHIMKUS. Anyone else want to chime in on that?

Mr. KNEUER. I think there is no separation anywhere in the USG and, I even think, at ICANN with regards to the importance of WHOIS and the commitment to collect reliable publicly accessible WHOIS data.

This conflict of laws with the GDPR, I think WHOIS is going to be sort of the pointy end of the spear on that. There are lots and lots of different places where the GDPR is running into conflicts of law.

So I think this is going to be an exercise we are going to have to undertake. I think NTIA remains well suited to be the U.S. point in working with ICANN, protecting that, and if it turns out that there needs to be a U.S. legal solution to clarify and supersede the GDPR, that's something that they can consider as well.

Mr. SHIMKUS. Thank you, and I want to submit for the record the Coalition for a Secure and Transparent Internet to the record.

Mrs. BLACKBURN. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. SHIMKUS. And I will just end on I sent a letter along with Congressman Ruiz to GoDaddy highlighting and fleshing this out either.

So it's very important and I appreciate your answers and look forward to having that part of the language.

And I yield back.

Mrs. BLACKBURN. The gentleman yields back.

And Mr. Welch has no questions or comments. We are delighted that he's here. We should ask him where he was in 1992, the last time Congress did this.

Well, seeing that there are no further members wishing to ask questions for the panel, I want to thank each of you for being here today and for helping us.

As you can see, there is broad bipartisan agreement on moving forward with the rural broadband and with NTIA—their participation, and so we thank you for your insight.

Before we conclude, I ask unanimous consent to enter the following documents into the record: a letter from NTIA, a Politico article, "Wired to Fail," a letter to me from organizations fighting human trafficking, a letter from CCIA—that is offered by Mr. Lance—a letter from CSTI, offered by Mr. Shimkus, ESA's court filing, offered by Mr. Doyle, the Shimkus-Ruiz letter regarding WHOIS and the database.

Without objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mrs. BLACKBURN. Pursuant to committee rules, all members are reminded that they have 10 business days in which to submit addi-

tional questions, and we would ask each of you—our witnesses—to respond within 10 business days.

Seeing there is no further business to come before the committee, the subcommittee is adjourned.

[Whereupon, at 3:23 p.m., the committee was adjourned.]

[Material submitted for inclusion in the record follows:]



**Computer & Communications
Industry Association**
Tech Advocacy Since 1972

Contact:

Heather Greenfield hgreenfield@ccianet.org

Ed Black ebblack@ccianet.org

John Howes jhowes@ccianet.org

FOR IMMEDIATE RELEASE:

June 26, 2018

**CCIA Encourages House E&C To Reauthorize NTIA, Promote Spectrum,
Competition**

Washington -- The House Energy & Commerce Committee is meeting today (Tuesday) to consider the National Telecommunications and Information Administration (NTIA) Reauthorization Act.

The following can be attributed to Computer & Communications Industry Association President & CEO Ed Black:

"CCIA welcomes the Energy & Commerce Committee's plans to reauthorize the NTIA, which has not been accomplished in nearly a quarter century. As the President's principal adviser on telecommunications and information policies, NTIA plays important roles in advocating for telecommunication policies around the world that promote competition and in managing federal spectrum.

"CCIA encourages the committee to build on this discussion draft by adding the bipartisan AIRWAVES Act (H.R. 4953), which will help create a pipeline of licensed and unlicensed spectrum to promote the benefits that next-generation 5G wireless networks, and the PEERING Act (H.R. 4817), which will promote connectivity and economic development in underserved areas. Following the reauthorization of the Federal Communications Commission (FCC) through RAY BAUM's Act earlier this year, CCIA encourages the Committee's continued bipartisan efforts to push this important agency forward."

About CCIA:

The Computer & Communications Industry Association is an international, nonprofit association representing a broad cross section of computer, communications and Internet industry firms. CCIA remains dedicated, as it has for over 40 years, to promoting innovation and preserving full, fair and open competition throughout our industry. Our members employ more than 750,000 workers and generate annual revenues in excess of \$540 billion. For more, please go to: www.ccianet.org

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

MOZILLA CORPORATION,

Petitioner,

v.

FEDERAL COMMUNICATIONS
COMMISSION and UNITED STATES
OF AMERICA,

Respondents.

No. 18-1051 (Lead)

*Consolidated with Nos. 18-1052,
18-1053, 18-1054, 18-1055, 18-
1056, 18-1061, 18-1062, 18-
1064, 18-1065, 18-1066, 18-
1067, 18-1068, 18-1088, 18-
1089***THE ENTERTAINMENT SOFTWARE ASSOCIATION'S
MOTION FOR LEAVE TO INTERVENE IN SUPPORT OF PETITIONERS**

Pursuant to 28 U.S.C. § 2348, 47 U.S.C. § 402(e), and Federal Rule of Appellate Procedure 15(d), the Entertainment Software Association (ESA), a trade association representing companies that publish computer and video games for video game consoles, handheld devices, personal computers, and the internet, moves for leave to intervene as a matter of right in support of Petitioners in the above-captioned proceeding.

Petitioners seek review of a Federal Communications Commission (FCC) Order, which eliminates judicially approved rules the FCC adopted in 2015 to protect and promote net neutrality. *See Restoring Internet Freedom*, Declaratory Ruling, Report and Order, and Order, FCC 17-166, WC Docket No. 17-108 (rel. Jan. 4, 2018) (“Order”). Petitioners argue that the Order is “arbitrary, capricious,

and an abuse of discretion within the meaning of the Administrative Procedure Act, 5 U.S.C. § 701 et seq.,” “violates federal law, including ... the Communications Act of 1934, as amended, and FCC regulations promulgated thereunder,” “conflicts with the notice-and-comment rulemaking requirements of 5 U.S.C. § 553,” and is “otherwise not in accordance with law.”

ESA actively participated in the FCC proceeding, and because the FCC’s Order permits ISPs to take actions that could jeopardize the fast, reliable, and low-latency connections that are critical to the video game industry, ESA’s members’ interests will be substantially affected by this Court’s review of the Order. *See* Comments of the Entertainment Software Association, *Restoring Internet Freedom*, WC Docket No. 17-108 (filed Jul. 17, 2017). The FCC’s Order eliminates the rules that prevent broadband providers from blocking, throttling, and otherwise interfering with consumers’ access to content online. Absent these protections, ESA and its member companies will have no effective legal recourse against broadband provider conduct that impairs consumers’ online video game experiences. In particular, broadband providers are now permitted to engage in practices that degrade consumers’ traffic. That, in turn, could have significant consequences for the enjoyment of multiplayer online games and cloud-based game play services, both of which require low latency connections to support rapid and continuous interactivity. Unlike streamed movies or music, games cannot be

buffered to compensate for problems with the broadband connection. Degradation of consumers' traffic could also impact game distribution networks, which depend upon adequate and consistent bandwidth to deliver large file downloads in a timely manner. ESA therefore supports enforceable open internet protections that have helped fuel dynamic growth, competition, and innovation in the video game industry.

For the foregoing reasons, the Court should grant the Entertainment Software Association's motion to intervene.

Respectfully submitted,

/s/ Scott Blake Harris

Scott Blake Harris

E. Austin Bonner

HARRIS, WILTSHIRE & GRANNIS LLP

1919 M Street, N.W., 8th Floor

Washington, D.C. 20036

(202) 730-1300

Dated: April 4, 2018

*Counsel for the Entertainment Software
Association*

**IN THE UNITED STATES COURT OF APPEALS
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1064, 18-1065, 18-1066, 18-
1067, 18-1068, 18-1088, 18-
1089*

PROPOSED INTERVENOR'S CORPORATE DISCLOSURE STATEMENT

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure, the Entertainment Software Association (ESA) hereby submits this Corporate Disclosure Statement. ESA is a trade association representing companies that publish computer and video games for video game consoles, handheld devices, personal computers, and the internet. ESA does not have any parent corporations and does not issue stock.

Respectfully submitted,

/s/ Scott Blake Harris

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*Counsel for the Entertainment Software
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Dated: April 4, 2018

**IN THE UNITED STATES COURT OF APPEALS
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1064, 18-1065, 18-1066, 18-
1067, 18-1068, 18-1088, 18-
1089*

PROPOSED INTERVENOR'S CERTIFICATE AS TO PARTIES

Pursuant to Circuit Rule 27(a)(4) and Circuit Rule 28(a)(1)(A), the Entertainment Software Association hereby certifies that in Case No. 18-1051 and the consolidated cases, the Petitioners are Mozilla Corporation; Vimeo, Inc; Public Knowledge; the Open Technology Institute; the State of New York, et al.; the County of Santa Clara, et al.; the California Public Utilities Commission; the National Hispanic Media Coalition; NTCH, Inc.; the Benton Foundation; Free Press; the Coalition for Internet Openness; Etsy, Inc.; Ad Hoc Telecom Users Committee; and the Center for Democracy and Technology. Respondents are the Federal Communications Commission (FCC) and the United States of America. The City of San Francisco has been admitted to the case as an Intervenor in support of Petitioners. The Entertainment Software Association seeks leave to appear in

this matter as an Intervenor in support of Petitioners. No *amici* have appeared before this Court.

Respectfully submitted,

/s/ Scott Blake Harris

Scott Blake Harris

E. Austin Bonner

HARRIS, WILTSHIRE & GRANNIS LLP

1919 M Street, N.W., 8th Floor

Washington, D.C. 20036

(202) 730-1300

Dated: April 4, 2018

*Counsel for the Entertainment Software
Association*

CERTIFICATE OF SERVICE

I certify that on April 4, 2018, the foregoing was electronically filed through this Court's CM/ECF system, which will send a notice of filing to all registered users. Users not registered with CM/ECF will be served by U.S. Mail.

CERTIFICATE OF COMPLIANCE

I certify that the forgoing Motion complies with the type-volume limitation of Fed. R. App. P. 27 because it contains 414 words. This Motion complies with the typeface and type style requirements of Fed. R. App. P. 27 because this Motion has been prepared in a proportionally spaced typeface using Word 14-point Times New Roman typeface.

/s/ Scott Blake Harris
Scott Blake Harris
E. Austin Bonner
HARRIS, WILTSHIRE & GRANNIS LLP
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(202) 730-1300

Dated: April 4, 2018

*Counsel for the Entertainment Software
Association*



U.S. House of Representatives
 Energy and Commerce Committee
 Subcommittee on Communications and Technology
 2125 Rayburn House Office Building
 Washington, D.C. 20515

Dear Chairman Blackburn and Ranking Member Doyle:

The Coalition for a Secure and Transparent Internet (CSTI) writes to thank you for your leadership on the National Telecommunications and Information Administration (NTIA) reauthorization as it relates to WHOIS data. We applaud the draft NTIA Reauthorization Act of 2018 Section 105, "Sense of Congress on Preservation of Domain Name System and WHOIS Service" for calling attention to the critical importance of maintaining this data as free, transparent, and publicly available.

As you know, WHOIS data is the publicly available information on who has registered and administers generic top level domain (gTLDs) names in spaces like .com and .net as well as certain country-code domain spaces like .TV. WHOIS data has been publicly accessible for free since the inception of the Domain Name System. Generic top-level domain name registrars and registries are contractually required to collect contact information from all domain name registrants at the time of registration. This contact data, including name, address, phone number, and email address, is combined with certain other attributes of a domain name's registration to comprise WHOIS data.

Due to an overly broad interpretation of the EU's General Data Protection Regulation (GDPR), many domain name registrars and registries are shutting down public access to the full range of WHOIS data, both for one-off requests and automated access. Law enforcement, consumer protection agencies, child advocacy groups, anti-human trafficking organizations, cybersecurity investigators, copyright and trademark holders, journalists, academics, and others rely on WHOIS to help determine *who is* operating a criminal website, sending malicious (SPAM, phishing) emails, or initiating cyber security attacks. When WHOIS data goes dark it takes away a critical source of information that is used to help keep the internet safe, secure and sustainable for all internet users.

CSTI encourages the Committee to do all you can to make WHOIS registration data publicly available in order to help protect Internet users from online criminal activity and to enable action against network and cyber security risks, intellectual property violations, and consumer fraud and abuse online.

Thank you again for your time and attention to this important issue. CSTI and our member organizations look forward to working with you on future versions of the language as you receive feedback, and on other efforts to ensure robust access to the WHOIS database continues. Please contact CSTI via Libby Baney (Libby.Baney@faegrebd.com) or Josh Andrews (Josh.Andrews@Faegrebd.cm) anytime.

Sincerely,
 The Coalition for a Secure and Transparent Internet
www.SecureandTransparent.org

ACT | The App Association; Alliance for Safe Online Pharmacies; Coalition for Online Accountability; Crucial Point LLC; CTO Vision; DomainTools; LegitScript; National Association of Boards of Pharmacy; Recording Industry Association of America; Motion Picture Association of America and SpamHaus



June 25, 2018

The Honorable Marsha Blackburn
U.S. House of Representatives
2266 Rayburn House Office Building
Washington, DC 20515

The Honorable Mike Doyle
U.S. House of Representatives
239 Cannon House Office Building
Washington, DC 20515

Dear Chairman Blackburn and Ranking Member Doyle:

The Telecommunications Industry Association (TIA), the leading trade association for global manufacturers, vendors, and suppliers of information and communications technology (ICT), applauds you for moving ahead to reauthorize the National Telecommunications and Information Administration (NTIA). NTIA serves a vital role in coordinating U.S. telecommunications policy in spectrum management, public safety, and other areas of national importance. Its efforts have also yielded direct benefits many times over for the American taxpayer. Meanwhile, we also appreciate the Committee's efforts to take a more holistic look at issues regarding ICT supply chain security.

In this letter, we address (1) NTIA's budget; (2) other steps the Committee could consider to strengthen NTIA's work and federal spectrum management generally; and (3) efforts to promote the security of the ICT supply chain.

NTIA's Budget

NTIA is the rare government agency that directly turns a profit – of many orders of magnitude – for American taxpayers. TIA *strongly* supports the Committee's efforts to make further investments in NTIA, including an increase in the authorized level of appropriations to \$50.8 million. Increased funding would enable the agency to better carry out its mission in the following key areas:

- **Federal Spectrum Management.** Work by the Office of Spectrum Management (OSM) has enabled federal spectrum auctions, such as the AWS-3 auction of federal spectrum in 2015 that raised nearly \$45 billion for the Treasury. Moving forward, OSM's efforts are essential to ensuring the successful deployment of innovative spectrum sharing models in the 3.5 GHz band, opening additional bands in the 3.4 GHz, 1300-1350 MHz, and other bands, and to future planning.
- **Wireless Research and Engineering.** The Institute for Telecommunications Sciences (ITS) conducts cutting-edge pre-market research toward more efficient uses of spectrum. Its work on test and demonstration networks is also important as the U.S. information & communications technology industry seeks to deploy new technologies such as 5G

networks and keep pace with investments being made by European and Asian governments.

- **Security and Privacy.** While providing important guidance to the Administration on an array of technology policy issues, NTIA's Office of Policy Analysis and Development (OPAD) facilitates critical multi-stakeholder processes on emerging topics like cybersecurity vulnerability disclosure and Internet of Things updatability and patching. NTIA has played and will continue to play a key role in implementing the President's executive order on cybersecurity, particularly with respect to mitigating botnets and other automated, distributed threats.
- **Public Safety.** NTIA's Office of Public Safety Communications (OPSC) played a pivotal role in the development of FirstNet, the forthcoming interoperable national public safety broadband network. OPSC's role is essential not just for FirstNet itself, but for assisting state and local governments with their coordination and planning, or (alternatively) constructing their own public safety radio access networks.

In short, NTIA's efforts have enabled the communications services that consumers, businesses, state and local governments, public safety professionals, and the federal government all depend upon, while also yielding huge returns for taxpayers. Congress should strengthen these efforts.

Other Steps to Enable NTIA's Future Success

Aside from increasing the agency's budget, the Committee should consider other ways to strengthen the agency's authority, provide it with greater flexibility, and/or enhance its ability to carry out its mission. Ideas for doing so may include the following:¹

- **Creating a National Spectrum Strategy.** TIA supports the concept of creating a national spectrum strategy to help provide guidance for federal spectrum policy over the medium and long term. The strategy could include a set of principles,² a path toward achieving goals,³ and could also be a living document that evolves over time.⁴ This

¹ See generally Comments of the Telecommunications Industry Association to OSTP, Mar. 20, 2014 ("TIA OSTP Comments").

² See David J. Redl, NTIA Spectrum Policy Symposium Remarks, June 12, 2018 ("The principles must include a commitment to balancing federal and non-federal spectrum requirements, and reflect the need to protect economic and national security. We need to ensure sufficient mechanisms exist to increase spectrum access, including through spectrum sharing, when that is the most effective approach. We need greater transparency of spectrum use. And we should promote increased collaboration between federal and non-federal stakeholders, including creative public-private partnerships.") ("Redl Symposium Remarks")

³ See *id.* ("Our strategy must rely upon a flexible spectrum management regulatory model, to include standards and enforcement mechanisms that encourage spectrum efficiency and effectiveness. We also need to leverage spectrum research, development, testing and engineering processes to elevate and deploy advanced spectrum sharing tools, dual-use

would build on the Department of Defense's Electromagnetic Spectrum Strategy developed in 2013,⁵ and DoD has signaled that it would welcome the creation of a wider strategy across the government.⁶

- **Better Tracking of Spectrum Use.** A better spectrum use tracking and management process would undoubtedly encourage more efficient uses of spectrum by all users. However, achieving this objective would require more frequent and sustained engagement between government and private-sector users at a technical level. In cases of spectrum sharing, federal policy should support forums for all stakeholders to periodically exchange information to better ensure that the sharing environment is and remains workable.
- **Stronger Central Coordination.** As various spectrum-related efforts in recent years have demonstrated, a stronger level of coordination or management for federal spectrum usage may be required. Indeed, in some cases NTIA has occasionally had difficulties even obtaining current information from other departments, making it difficult for the agency to effectively respond to Administration and Congressional requests for more detailed information regarding federal use. It may be valuable to have NTIA be staffed to engage more closely with other spectrum management offices to ensure that there is greater currency to government records of use, providing greater transparency for management purposes.
- **SRF Flexibility.** TIA supports further efforts to provide agencies with appropriate flexibility to use a portion of funds from the Spectrum Relocation Fund to plan for transitions. NTIA Administrator David Redl has recently observed that some policymakers have suggested that not tying SRF funds directly to specific auction proceeds or relocations might broaden the incentive effects for federal agencies to share or otherwise re-purpose spectrum.⁷ While Congress must ensure that funding is still

technologies, and innovative ways to access spectrum. We need to make meaningful progress toward establishing secure, enterprise-level spectrum management tools to help us both identify areas of greater spectrum efficiency, and to manage the coordination of shared spectrum access.”)

⁴ See [NTIA Spectrum Policy Symposium Transcript](#), June 12, 2018, at 26 (remarks of Rachael Bender, Wireless and International Advisory to FCC Chairman Ajit Pai) (“instead of setting out one goal that we have to meet, it should be kind of a living document, something that can move over time as technology evolves, as things change, so that we can keep pushing forward and we can adapt.”) (“NTIA Symposium Transcript”).

⁵ Department of Defense, [Electromagnetic Spectrum Strategy](#), 2013.

⁶ NTIA Symposium Transcript at 28 (remarks of Col. Frederick D. Williams, Sr. Analyst, Spectrum Policy & International Engagements, Office of the CIO, DoD) (“We love, applaud, the idea of getting after a national strategy in the DoD.”)

⁷ See David J. Redl, [Remarks at TIA Policy Forum: Federal Spectrum Policy for the 5G Era](#), June 21, 2018 (“Redl TIA Remarks”).

available for the primary purpose of directly supporting relocations, such flexibility may also help overcome any agency resistance to “unknowns” associated with any particular transition of spectrum.

- **Re-Investing Spectrum Proceeds in R&D.** Spectrum R&D is the “seed corn” that has enabled more efficient uses of spectrum by federal and commercial users alike, resulting in macroeconomic benefits to the U.S. economy as well as direct benefits to the Treasury when more spectrum is made available for auction. To ensure that the pipeline of spectrum continues into the future, Congress should enact legislation requiring re-investment of one percent of spectrum auction proceeds into spectrum research and development efforts.⁸
- **Supporting Global Wireless Standards Efforts.** U.S. industry is facing significant pressure in global standards-setting forums from state-subsidized companies in other parts of the world. This is a growing problem that Congress should address through a variety of means, including allowing the use of the R&D tax credit for participation in standards-setting activities. NTIA’s Institute for Telecommunications Sciences (ITS) helps promote Administration policies in national and international standards-setting bodies,⁹ and this Committee should consider ways to further strengthen that role to help ensure that U.S. industry can compete.
- **Commercial Alternatives for Federal Users.** For those communications capabilities that can be provided equally well by commercial providers, Congress should require agencies to consider commercial options in lieu of using their own legacy systems – options that may be more cost-effective while providing much greater flexibility in serving an agency’s mission. Indeed, any legacy uses of agency spectrum for communications purposes may need to be re-evaluated in favor of a more flexible approach that will ultimately benefit the agencies themselves.¹⁰ For example, in 2013 DoD committed that it would seek to use commercial services and technologies to meet its requirements where possible.¹¹
- **Caution on Spectrum Leasing.** TIA is cautiously open to exploration of potential spectrum leasing models, as NTIA has proposed doing in its FY19 budget. However,

⁸ Current spectrum auction authority expires at the end of FY2022, except for certain bands identified under the Spectrum Pipeline Act of 2015. *See* 47 U.S.C. § 309(j)(11). Direction of 1% of funds from auctions conducted beginning in 2023 to R&D may therefore potentially avoid congressional budget scoring issues that other proposals have encountered in recent years. For guidance on how funding could be directed, *see, e.g.*, TIA White Paper, [Spectrum Sharing Research and Development](#) (2014); [S. 911, 112th Cong.](#), § 224 (as reported in Senate).

⁹ *See* Redl TIA Remarks.

¹⁰ The outcomes of such re-evaluations may be different for each agency, particularly when considering certain non- “communications” uses of spectrum (radar, telemetry, etc.).

¹¹ DoD Electromagnetic Spectrum Strategy, *supra* n.5, at 7.

TIA agrees with Administrator Redl that the concept needs much more study and analysis before it could be implemented.¹² For example, TIA has expressed concerns in the past regarding spectrum fees – possibly a different concept from what NTIA may be studying now – since the implementation of any such fees would almost certainly not be universal, and would therefore create myriad opportunities for “market distortions” including administrative and/or legislative intervention over time. (To use an analogy, the existing problems of a massively complex tax code should not be imported into spectrum policy.) This could result in a marketplace that may not be technology-neutral, i.e., in which the government is picking technological winners and losers.¹³

- **Supporting NTIA’s Technical Workforce.** Nearly half of NTIA’s workforce is focused on spectrum policy issues,¹⁴ and many other topics within the agency’s purview are also highly technical in nature. Ensuring that the agency is appropriately staffed with highly-qualified technical personnel, including electrical engineers with a background in spectrum issues, will be essential to ensuring that the agency can fulfill its mission in future years. The FCC recently launched a new Honors Engineer Program to address similar concerns,¹⁵ and this Committee should consider similar ways to creatively ensure that NTIA has appropriate technical staffing to meet future needs.

Securing the ICT Supply Chain

TIA has recently explained in its detailed comments to the FCC that supply chain security in general is a complex task that is best addressed through public-private partnerships and consensus-based industry standards.¹⁶ A whole-of-government approach based upon an interagency process would be the most durable over the long term, and TIA has therefore outlined in its comments what such a process might look like, including a set of criteria for eventual use by decisionmakers.¹⁷

Also, TIA supports efforts by the U.S. government, including this committee, to address concerns regarding certain communications technology suppliers deemed to pose a national security risk. For that reason, TIA has supported the FCC’s recent proposal to restrict specific companies posing national security concerns from receiving funding through the Universal

¹² See Redl TIA Remarks (“To be clear, this concept needs much more study and analysis, but I believe it is worth exploring whether it can become an additional tool for expanding access to spectrum and using it more efficiently and effectively.”).

¹³ TIA OSTP Comments at 6.

¹⁴ See Redl TIA Remarks.

¹⁵ Press Release, [FCC Launches New Honors Engineering Program](#), Apr. 2, 2018.

¹⁶ See [Comments of the Telecommunications Industry Association](#), filed June 1, 2018 in WC Docket No. 18-89, at 28-35 (“TIA USF Security Comments”).

¹⁷ *Id.* at 80-84.

Service Fund program.¹⁸ Meanwhile, Congress has already taken action with regard to certain hardware manufacturers to prohibit purchases by certain U.S. government agencies of equipment from certain companies.¹⁹ Most recently, both the House and Senate versions of the FY19 National Defense Authorization Act would expand those statutory prohibitions to encompass federal procurement more broadly.²⁰

Thank you again for holding a hearing on these issues. For more information, please contact me at 703-907-7707 or by email at crogers@tiaonline.org.

Best regards,



Cinnamon Rogers
Senior Vice President, Government Affairs
Telecommunications Industry Association

¹⁸ *Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs*, Notice of Proposed Rulemaking, WC Docket No. 18-89, FCC 18-42 (rel. Apr. 18, 2018), 83 Fed. Reg. 19,196 (May 2, 2018) (“Notice”); *see also* TIA USF Security Comments (*passim*).

¹⁹ *See, e.g.*, National Defense Authorization Act for Fiscal Year 2018, Pub. L. No. 115-91, div. A, § 1634, 131 Stat. 1283, 1739 (Dec. 12, 2017) (prohibiting all federal agencies from using any “hardware, software, or services developed or provided, in whole or in part,” by Kaspersky Lab); *id.* at § 1656, 131 Stat. at 1762 (barring the Department of Defense from “procur[ing] or obtain[ing], or extend[ing] or renew[ing] a contract” with Huawei or ZTE for “any equipment, system, or service” that forms a substantial component of any nuclear deterrence or homeland security mission); Commerce, Justice, Science, and Related Agencies Appropriations Act, 2013, Pub. L. No. 113-6, div. B, § 516, 127 Stat. 198, 274 (2013) (barring the Departments of Commerce and Justice, NASA, and the National Science Foundation from purchasing IT systems “produced, manufactured or assembled” by entities “owned, directed, or subsidized by the People’s Republic of China” unless the purchase is “in the national interest of the United States,” and requiring that agencies must consult with the FBI or another appropriate federal entity to assess the risk of cyberespionage or sabotage before considering purchasing any such systems).

²⁰ National Defense Authorization Act for Fiscal Year 2019, H.R. 5515, 115th Cong., div. A, § 880 (engrossed in House on May 24, 2018); National Defense Authorization Act for Fiscal Year 2019, H.R. 5515, § 6702 (printed as passed in Senate, June 19, 2018).

6/26/2018

Wired to fail - Tony Romm - POLITICO

POLITICO**POLITICO INVESTIGATION****Wired to fail**

How a little known agency mishandled several billion dollars of stimulus money trying to expand broadband coverage to rural communities.

By [Tony Romm](#)

7/28/15 5:15 AM EDT

Updated 7/28/15 5:32 PM EDT



Bryant Hancock, a contractor for Lake Connections, buries fiber optic lines in May in rural Lake County, Minnesota. | M. Scott Mahaskey/Politico

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BROKEN BY DESIGN

A POLITICO series that investigates little-known federal agencies where big policy challenges meet political realities.

In September 2011, as the U.S. economy continued to sputter in the shadow of the Great Recession, Jonathan Adelstein offered a bold promise on behalf of a tiny federal agency that had long strived to improve the lives of rural Americans.

Story Continued Below

The administrator of the little-known Rural Utilities Service had just finished announcing \$3.5 billion in aid to expand high-speed Internet access to the hardest-to-reach areas of the country. The awards, part of the federal stimulus passed by Congress two years earlier, had been crucial to President Barack Obama's blueprint for a recovery that would ensure farmers and remote businesses could compete in an increasingly global economy.

"These investments in broadband will connect nearly 7 million rural Americans," Adelstein pledged in a report to Congress, "along with more than 360,000 businesses and more than 30,000 critical community institutions like schools, health care facilities and public safety agencies, to new or improved service."

Judged against the agency's 80-year track record, those numbers didn't seem unrealistically ambitious. During the Great Depression, after all, RUS had loaned out millions of dollars to string electric lines to distant farms and small towns in parts of the country that private companies refused to serve — a bold and calculated risk that had transformed America in a single generation.

<https://www.politico.com/story/2015/07/broadband-coverage-rural-area-fund-mishandled-120601> full.html?print

1/17

6/26/2018

Wired to fail - Tony Romm - POLITICO

But more recently, RUS has strayed from its rural mission. Even the agency's staunchest defenders in Congress have learned: When it came to funding broadband projects, RUS never found its footing in the digital age.



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HELENA BOTTEMILLER EVICH

Sometimes, RUS funded high-speed Internet in well-wired population centers. Sometimes, it chose not to make any loans at all. Sometimes, RUS broadband projects stumbled, or failed for want of proper management, loans went delinquent and some borrowers defaulted. Yet despite years of costly missteps that left millions of Americans stranded on the wrong side of the digital divide, a stable of friendly lawmakers swallowed their doubts about RUS and made sure the politically protected agency wasn't cut out of the historic stimulus effort.

It should come as little surprise, then, that four years and four directors later, RUS has failed to deliver on Adelstein's promise.

A POLITICO investigation has found that roughly half of the nearly 300 projects RUS approved as part of the 2009 Recovery Act have not yet drawn down the full amounts they were awarded. All RUS-funded infrastructure projects were supposed to have completed construction by the end of June, but the agency has declined to say whether these rural networks have been completed. More than 40 of the projects RUS initially approved never got started at all, raising questions about how RUS screened its applicants and made its decisions in the first place.

But a bigger, more critical deadline looms for those broadband projects still underway: If these networks do not draw all their cash by the end of September, they will have to forfeit what remains. In other words, they may altogether squander as much as \$277 million in still-untapped federal funds, which can't be spent elsewhere in other neglected rural communities.

And either way, scores of rural residents who should have benefited from better Internet access — a utility that many consider as essential as electricity — might continue to lack access to the sort of reliable, high-speed service that is common in America's cities. Even RUS admits it's not going to provide better service to the 7 million residents it once touted; instead, the number is in the hundreds of thousands.

The checkered performance of RUS offers an all-too-familiar story of an obscure federal agency that has grown despite documented failures, thanks in large part to its political patrons in Congress. The massive infusion of stimulus money, which required RUS to disperse record sums faster than it ever had before, further exposed its weaknesses — troubles that in many ways remain unaddressed, despite repeated warnings — even as RUS continues lending.

"We are left with a program that spent \$3 billion," Mark Goldstein, an investigator at the Government Accountability Office, told POLITICO, "and we really don't know what became of it."

It took a bigger economic crisis, more than eight decades earlier, to bring RUS into existence. The agency, known then as the Rural Electrification Administration, had been a centerpiece in President Franklin Delano Roosevelt's historic New Deal. But the effort was controversial from the start. Private companies derided the government's investments in rural energy as "Bolshevik" and "un-American," but within several years, hundreds of public utilities were operating, and within 20 years, almost all U.S. farms had electricity. The model was so successful that REA shifted shortly after World War II to providing low-interest loans for rural telephone cooperatives.

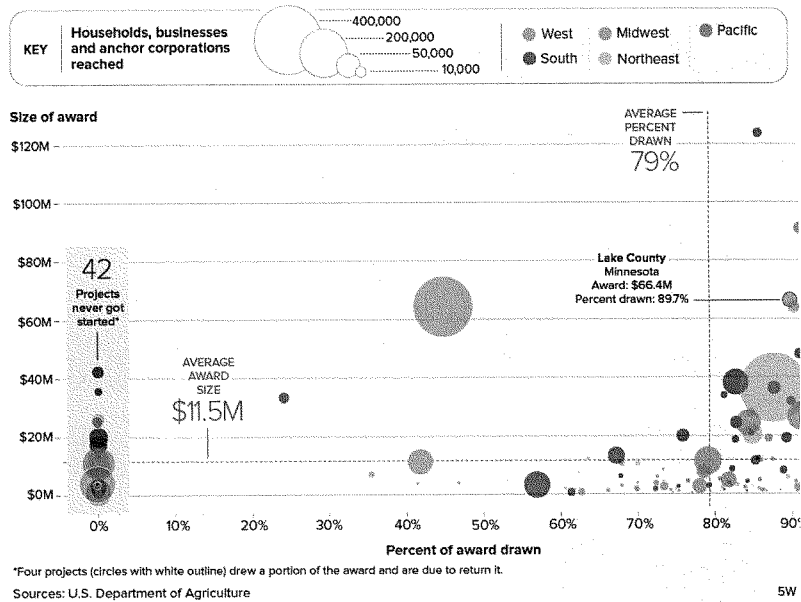
Dwight D. Eisenhower entered the White House vowing to abolish REA, which he derided as "creeping socialism." Within two years, however, even he was extolling the agency's performance, praising its "great advances for rural America." The program grew under Presidents John F. Kennedy and Lyndon B. Johnson; the latter in 1937 had led the formation of an electricity cooperative in the Texas Hill country. Richard M. Nixon again tried to kill it, arguing that the program had outgrown its usefulness and at that time served only "country clubs and dilettantes." But an outraged farm bloc in Congress, led by senators such as George McGovern of South Dakota and Hubert Humphrey of Minnesota, forced Nixon to back down.

By the end of the 20th century, REA's original electricity mission was more or less accomplished. And in 1994, REA and another agriculture program that had backed water and sewer projects were combined to form the Rural Utilities Service. Yet it was late in the Clinton administration that the agency's portfolio expanded in a way that would be as dramatic — and ultimately, as controversial — as when it began.

Nations like Japan and South Korea had quickly achieved nearly universal and affordable broadband coverage, but the United States was lagging. "Internet access ought to be just as likely as telephone access," President Bill Clinton said in April 2000. That year, Clinton's budget included \$102 million for a pilot broadband program to be administered by RUS, building on its previous telecom work.

Race against the clock

In 2009, as part of the federal Recovery Act, the Rural Utilities Service launched a \$3.5 billion program to bring high-speed Internet service to more than 7 million rural Americans. More than six years later, RUS appears unclose to hitting that mark. Roughly 150 projects, totaling about \$270 million, have not drawn down some of their awards. If they don't tap this cash by the end of September, they forfeit the money. Another 42 projects, more than \$300 million, never got started.



Bolstered by a 2001 Brookings Institution study that estimated widespread adoption of basic broadband could add \$500 billion to the U.S. economy, Congress approved permanent funding for the program. In the eyes of allies like Montana Sen. Conrad Burns, robust, widespread Internet access "would be as important to the national destiny as the railroads in the 19th century. ... Universal broadband should be the national priority ... (the) same way as putting a man on the moon was." And low-interest federal loans, he believed, were the best way to do it. "The RUS telecom program has never issued a bad loan in over 50 years," Burns said. "The government has actually made money off of those loans."

In 2004, President George W. Bush proposed that broadband coverage should be universally available within three years. His support touched a nerve with Iowa's Sen. Tom Harkin, a powerful Democrat who knew that one of the government's primary mechanisms for meeting that goal was not up to the task. At a confirmation hearing for James Andrew, who eventually would take over RUS under Bush, Harkin recalled an encounter with the president in which he confided that universal broadband would never happen if RUS didn't start spending money.

"We put in \$2 billion (to the farm bill) to do that," the senator grumbled to Bush, "but the Department of Agriculture has been dragging its feet." By making onerous demands on its applicants and keeping them waiting months for approval, Harkin said RUS had managed to leave \$1.6 billion on the table.

"I don't want to sound too cynical," Harkin told Andrew, "but it almost sounds like the cable companies and the big phone companies have gotten to somebody and said, 'We don't want this program to work.'"

Harkin then delivered to Andrew a brief sermon on the mission of RUS: "We were not risk averse when we put telephone lines out to farmsteads and our small towns in America. We knew there was risk in doing that, but we managed it. RUS manages risk. And that is what I am asking in broadband, manage risk. Don't be so risk averse

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that you say, "We cannot give a loan out there because we want to make 100 percent certain that the company we give it to will not default and will not fail. Some of them will ..."

Who's in charge?

President Clinton proposed the first dramatic expansion of the Rural Utilities Service to include broadband access. RUS was criticized repeatedly, however, for its management of loans and grants for broadband projects.



Hilda Gay Legg

TENURE: George W. Bush appointee, 2001 to 2005.

QUALIFICATIONS: Legg was president and CEO of the Center for Rural Development, which worked in Kentucky on telecommunications.

WHERE IS SHE NOW? Legg launched her own firm, Legg Strategies, helping others navigate the government's thicket of telecom laws. She's since become a consultant with Wiley Rein, and she has worked with clients seeking to obtain stimulus funds.

"The challenge for a federal agency to take a piece of legislation written and approved by 535 members of Congress and interpret it into regulations ... [then] achieve all the intentions of the legislation, and yet be a good solid financial and engineering loan, is not an easy task," she said in a recent interview.



James Andrew

TENURE: Bush appointee. Served from September 2005 until Barack Obama took office in 2009.

QUALIFICATIONS: A Georgia native, Andrew spent 16 years representing his home state, then served as board president of the National Rural Electric Cooperative Association. (Andrew died in April.)

"Since I was sworn in as administrator, I have been working with our staff, looking at both the process and the structure of the broadband program," he told Congress in May 2006. "With this review of all aspects of the broadband program, we will make the changes we can to make this program more user friendly while protecting the taxpayer investment in broadband deployment."



Jonathan Adelstein

TENURE: Obama appointee. Served from July 2009 to September 2012.

QUALIFICATIONS: Adelstein, a Democrat, served on the Federal Communications Commission as a commissioner from 2002 to 2009. Before that, he served as a Senate staffer, including a stint as a top aide to former Senate Majority Leader Tom Daschle.

WHERE IS HE NOW? Adelstein in 2012 became president of PCIA — the Wireless Infrastructure Association, a trade group.

"I am pleased to report that the program is working, with projects that are on schedule, on track and creating jobs in tribal communities and across rural America," Adelstein told a Senate committee in June 2012.



John Padalino

TENURE: Padalino served as RUS acting administrator from September 2012 until May 2013, when he was named administrator. He departed in August 2014.

QUALIFICATIONS: Padalino arrived at USDA in 2009 and served in a number of leadership positions, including acting principal deputy counsel for the agency's Office of General Counsel and chief of staff for Rural Development, which houses RUS.

WHERE IS HE NOW? After leaving USDA, Padalino returned to Kemp Smith, the Texas-based law firm where he practiced before his tenure at USDA.

"There will be a default rate. There will be a handful of projects fully completed, as they were proposed," he told POLITICO in April. "There will be projects that look fine on paper today, and in a couple of years, something will happen. That's just the nature of the business."



Brandon McBride

TENURE: Obama appointee. McBride became the 19th administrator of RUS in March 2015.

QUALIFICATIONS: McBride previously served as a senior staff member on the Senate Agriculture Committee for then-Chairwoman Debbie Stabenow.

"Because of the strengthened risk management practices instituted by USDA, there has not been a single Recovery Act project default to date," he said in a statement.
https://www.politico.com/story/2015/07/broadband-coverage-rural-area-fund-mishandled-120601_full.html?print 4/17

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Image credits: Campbellsville University Photo by Christina Kern, Jefferson Energy Cooperative, AP and Getty

Andrew agreed with the senator, but there were plenty of internal problems plaguing the embattled agency, as a 2005 inspector general's report revealed.

The spirit of the law always had been for RUS to target its broadband aid to the most remote, neglected rural towns. In the earliest years of the broadband program, administered chiefly at the time by Bush-appointedee Hilda Legg, RUS seemed to believe it had a much broader mandate — and it wrote multiple sets of rules that permitted it to provide aid to “any definable tract of land where fewer than 20,000 people live.” That metric essentially allowed areas under development or near larger, suburban areas to receive federal cash.

In the end, the watchdog's probe found, “64 communities near large cities received loans and grants totaling \$103.4 million.” These networks, in a sense, were easier to build: They were located in denser communities, where a lower price tag for buildout and a higher demand for faster service made it easier to recover costs. But they weren't in the rural, unserved areas where many in Congress wanted RUS to focus its attention.

Federal investigators also calculated that RUS had awarded more than \$137 million in loans, despite incomplete or inaccurate applications. About \$30 million of its loans “[were] in default due to inadequate servicing,” largely because the agency hadn't developed strong oversight guidelines for its earliest loans — meaning the cash wasn't “timely and thoroughly monitored.” And another \$6.8 million in canceled broadband loans “was not put to use in a timely fashion and was therefore unavailable for future funding.”

With the election of Obama, broadband expansion gained another prominent champion, one who had been determined to use the federal stimulus to boost Internet investments “so that a small business in a rural town,” he said in a January 2009 speech, “can connect and compete with their counterparts anywhere in the world.”

Fiscal conservatives, already fighting what would become the \$800 billion stimulus package, zeroed in on the broadband program, resurrecting the decades-old complaint that it was an improper intrusion by the federal government into the free market. But Harkin, and other prominent lawmakers from farm states, ensured that RUS still received several billion dollars from the American Recovery and Reinvestment Act.

“They've been involved in loans and loan guarantees and things like that since 1949,” Harkin said at the time, “so they know how to do these things.”

Except, RUS didn't. Miserly and risk averse at times — and unfocused and overly generous at others — the rural regulator arrived at its monumental stimulus task with more questions than answers.

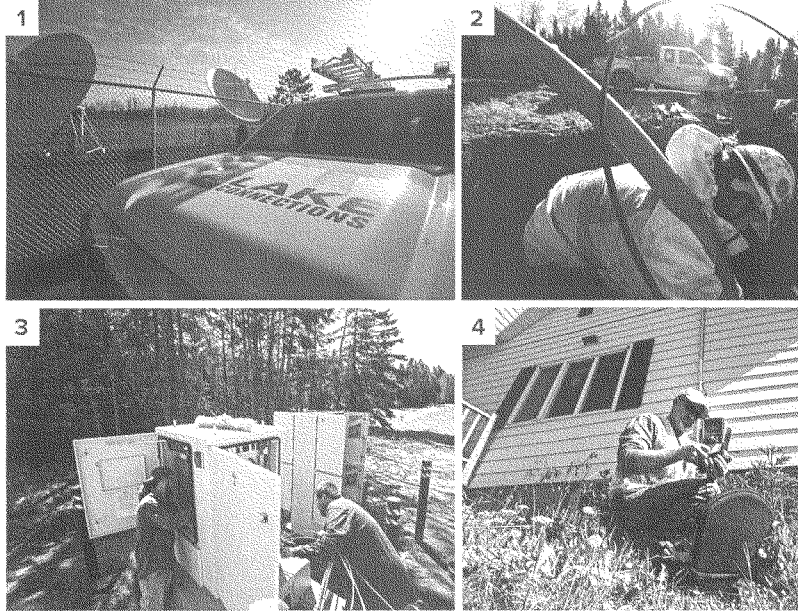
The Obama administration insisted on funding “shovel-ready” projects, but the broadband networks RUS had been asked to support would require considerable time to design, obtain permits to bury lines or hang them from poles, and address environmental concerns. Complicating things, the agency would have to award its billions of dollars without fully knowing what parts of the country needed the most help. An effort to map the communities with the worst high-speed connections, another requirement of the Recovery Act, would take years to complete — a cart-before-the-horse approach that stimulus skeptics ridiculed.

“I just fought and fought because, if you're going to spend the taxpayers' money, then you should spend it where nobody else will spend it,” recalled Rep. Greg Walden (R-Ore.) in a recent interview. He offered an amendment during an early markup of the Recovery Act, but Democrats, who felt mapping would slow investment, voted it down.

To top it all, there was another catch: RUS would have to commit to spending all the money by Sept. 30, 2010, and make sure construction on those projects were “substantially complete” no later than two years after getting the funds. The drop-dead deadline would be Sept. 30, 2015: After that, any unspent money would be taken back.

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The \$66-million project known as Lake Connections(1) in northeast Minnesota is typical of the many broadband projects funded by the Rural Utilities Service that have had difficulty finishing. Lake Connections has encountered delays from harsh winter weather as well as opposition from RUS officials in Washington, who cut off funds in October for several months, forcing the project to commit local tax dollars. In May, a contractor buried fiber optic cable (2), secured fiber optic connections at a remote control unit (3) and connected the line to a residential customer (4). M. Scott Mahaskey/Politico photos

Already shaky on execution, RUS began to tackle its monumental stimulus workload without a full-time administrator. On March 20, 2009, Obama nominated Adelstein, then a Democratic commissioner at the Federal Communications Commission, to lead the rural agency. The nomination came about a month after the Recovery Act became law.

Adelstein, a South Dakotan by birth, could appreciate the agency's mission. And while serving at the FCC, he had worked closely on a number of initiatives to improve broadband access in unserved rural towns. But some wondered whether Adelstein, a former top aide to Sen. Tom Daschle (D-S.D.), was suited for the immense challenge the stimulus presented. To at least one former official who worked on the law, Adelstein appeared to be "very much a Hill staffer put in the role of a banker, [who] approached it more like a Hill staffer than banker."

But Adelstein at least knew the stakes. Not only had he worked on the 2002 law that helped usher in a new broadband era for RUS, he heard an awful lot about it from the lawmakers who decided the fate of his nomination. "I do not think we are ever going to see that kind of money again," lamented Harkin at a July 2009 hearing, which paved the way for Adelstein's confirmation that summer. By the time Adelstein took the reins, though, RUS had already started writing the rules for its first stimulus awards. Moreover, he had arrived on the heels of another inspector general investigation, which found — yet again — that RUS "continued to make loans to [broadband] providers in areas with pre-existing service," while neglecting needier rural towns.

By September 2010, as required, RUS had committed all of its stimulus cash, primarily to 297 infrastructure projects. The agency would also devote millions in additional funding to other efforts, like new satellite Internet services across the country. About a year later, with major work underway, Adelstein made his confident, infamous prediction of the success of his agency's investments, still citing his team's "extensive technical skills, program experience and financial expertise gained over 75 years."

"Once built," he wrote of the broadband networks, "they will provide the platform for economic development and job creation for years to come." Adelstein would continue citing those figures into the following year, telling Congress at least twice that RUS and its broadband investments would benefit "7 million rural Americans."

In truth, projects were beginning to fail.

Quietly, RUS killed 42 broadband infrastructure projects that it had heralded only months earlier. The agency rescinded more than \$300 million in loans and grants before a single check was written. In many cases, local officials had struggled to finance their share of their networks, or obtain the permits needed to lay new fiber cables or erect new wireless towers.

RUS only disclosed the misfires after the Government Accountability Office slammed the agency in a scathing June 2014 report. Even then, the full extent of its withdrawn investments did not become public until POLITICO submitted a request under the Freedom of Information Act. All told, the 42 cancellations meant as many as 430,000 residents in rural areas did not benefit from the new or improved connections that Adelstein had championed in the September 2011 report.

https://www.politico.com/story/2015/07/broadband-coverage-rural-area-fund-mishandled-120601_full.html?print

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There wouldn't be new, speedy Web for roughly 17,000 homes in Panola County, Mississippi, for example, or improved connections for about 2,000 homes in Franklin County, Indiana. RUS wouldn't fund a \$20 million network that would have helped about 26,000 homes in southwest Virginia, either.

One of RUS' most mystifying misfires involved KeyOn Communications, based in Omaha, Nebraska. KeyOn submitted dozens of applications for RUS aid, which its CEO once described as a "growth opportunity" for the company. RUS repeatedly said no before approving a proposal for a \$10 million wireless project in Nevada. But the award still couldn't save the company, which had to sell off its assets before any stimulus payments could begin. (The company's former CEO did not respond to a request for comment.)

RUS has declined repeatedly to discuss on the record why so many projects it had approved failed so quickly. Adelstein — who now runs a wireless infrastructure lobbying group that advocates for telecom reform on Capitol Hill — also declined multiple requests for an interview.

Instead, he explained in a statement shared by his aide: "While there were a few projects that may not have fulfilled expectations, the vast bulk met their goal of providing rural broadband where it otherwise wouldn't go." Approached most recently at a congressional hearing last week, Adelstein declined again to speak on the record. "He has made it clear he doesn't want to interview," his aide said. "Don't waste your time."

But there were serious — and in many ways, familiar — consequences to these sudden collapses. Under stimulus rules, funds committed to canceled projects could not be redistributed after September 2010 to more worthy applicants, the same sort of restriction that prevented scores of other applicants from tapping unused RUS aid in years and programs past. At the height of the economic recovery, it meant thousands of residents in rural areas couldn't benefit from aid that champions, like Harkin, saw as one of a kind.

And if it wasn't clear why RUS had approved projects that faltered so soon, it seemed even less clear how other investments — like a multimillion-dollar, ultrafast fiber network in the woods of northeast Minnesota — managed to win an award and barrel ahead, despite the agency's own doubts.

* * *

Slow and unreliable connections throughout Lake County had long bedeviled small businesses and school principals, knocked out ATMs and, at times, even interfered with emergency services. For an area that relies on mining and tourism, the stimulus offered a rare opportunity to hurdle that digital divide. "If we don't get this, we might not get high speeds," Christopher Swanson, one of the project's first consultants, recalled during a recent interview at a coffee shop in the Minnesota county. "We might not get another opportunity for another 20 years."

But, he acknowledged to POLITICO, "We didn't have a shovel-ready project."

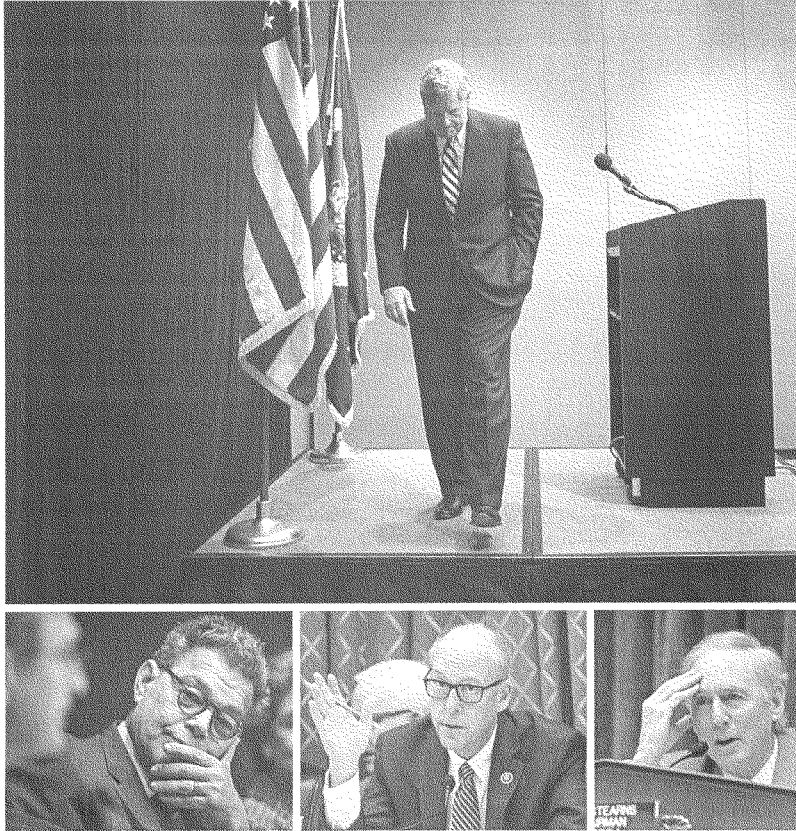
Lake County's first application had been rejected partly because RUS had concerns about its business plan. But months later, the agency approved Lake County's second request — a \$66 million proposal, mostly in government loans, that was almost twice as much as the first proposal, twice as ambitious and covered an even larger area with about 16,000 residents.

Internal documents from RUS, obtained by POLITICO, reveal that the agency had granted its green light to the project, despite having identified "several items of risk." In its application, Lake County officials had not properly accounted for the difficulties of burying fiber during the long Minnesota winter, according to RUS, and it had not received the necessary permission to hang its fiber lines on poles owned by local electric utilities. It received the funding anyway. And these troubles would contribute to so many delays that, in late 2014, RUS would temporarily halt federal funding, forcing Lake County officials to first pony up \$15 million in local tax dollars — all after promising the network wouldn't cost the community a dime.

The breakdown was the culmination of years of contention between the Minnesota region and its federal benefactor. Before it had cut the first check to Lake County, RUS unexpectedly rejected the project's bond financing. This adversarial relationship between RUS and its applicant only confirmed criticism about paperwork and regulatory burdens that Harkin heaped on the agency several years earlier. Minnesota Sen. Al Franken ultimately intervened, complaining in a sharply worded letter to Adelstein that "this is not the kind of service my constituents deserve." RUS was unmoved, forcing Lake County to come up with \$3.5 million of its own money if it wanted to keep the network on track.

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Agriculture Secretary Tom Vilsack (top) supports RUS, which is part of his department. Minnesota Democratic Sen. Al Franken (left) intervened with RUS on behalf of a broadband project in his state. Rep. Greg Walden (center) fought unsuccessfully to require a map of the national broadband network before approving stimulus funding. Florida Rep. Cliff Stearns (right) investigated the Lake Connections project after private companies complained the project was infringing on their territory. | M. Scott Mahaskey/Politico and AP photos

A later dispute with Lake County's lead contractor resulted in a total reshuffling of its leadership, further delaying the project. Potential competitors in the region, like Mediacom, a local cable provider, lobbied hard in Washington against the network, attracting the attention of Republican stimulus skeptics like Florida Rep. Cliff Stearns.

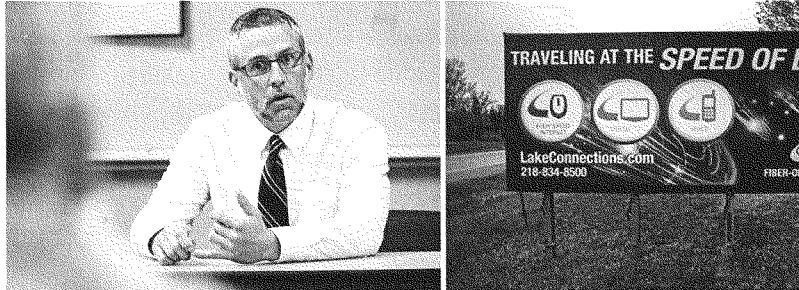
Stearns and his allies on the Energy and Commerce Committee in May 2012 opened a full-fledged probe of the Lake County award. For more than a year, they closely scrutinized the Minnesota network. "Materials reviewed by committee staff also raise questions as to whether RUS adequately considered the financial viability of the Lake County project before committing \$66.4 million in government funding," five members led by the panel's chairman, Michigan Rep. Fred Upton, wrote in a March 2013 letter.

Despite the agency's own doubts, RUS that year mounted a vigorous public defense of its investment, according to documents reviewed by POLITICO. At the helm was John Padalino, a longtime leader at USDA who took over RUS after Adelstein's departure. Writing to House Republicans on the committee that April, Padalino stressed that Lake County had "met all eligibility, financial and technical requirements" to have received its award.

More than a year later, though, RUS still turned against the Minnesota project, leaving it to fend for itself against the very challenges that the rural regulator identified from Day One.

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Matt Huddleston, the county administrator for Lake County, Minn., speaks in May to local commissioners about the status of the delayed broadband project. A sign for the Lake Connections project outside Two Harbors, Minn. | M. Scott Mahaskey/Politico photos

Local officials, once optimistic, now felt betrayed. "Rather than provide assistance to solve anticipated construction challenges, primarily pole attachment issues, RUS responded by unexpectedly ceasing all loan funding," officials wrote in a December 2014 email to potential subscribers.

Officials for Lake County's fiber project, known as Lake Connections, said in May they have 300 to 400 subscribers hooked up and an additional 1,500 applications for service — far short of initial projections. They said at the time they didn't believe they would complete the network by the end of June, an extended construction deadline RUS granted to Lake County and all of its other stimulus investments. And the Minnesota region likely won't draw all its funds by Sept. 30, meaning the project may have to forfeit as much as \$6 million.

But officials are required by law to try to wire the network as it was initially approved — and they'll have to pay the government back. To do that may mean drawing on more state and local money, as well as a potential new \$3.5 million grant from the FCC.

Stuck in the slow lane

Who has high-speed Internet? Under the new standard set by the Federal Communications Commission this year, modern high-speed broadband connections should offer at least 25 megabits per second (Mbps) in download speeds and 3 Mbps in upload speeds. By that measure, rural areas lag far behind the nation's population centers. More than 53 percent of rural Americans don't have access to this level of service, according to the FCC, while only 1 percent of urban areas lack such speedy connections.

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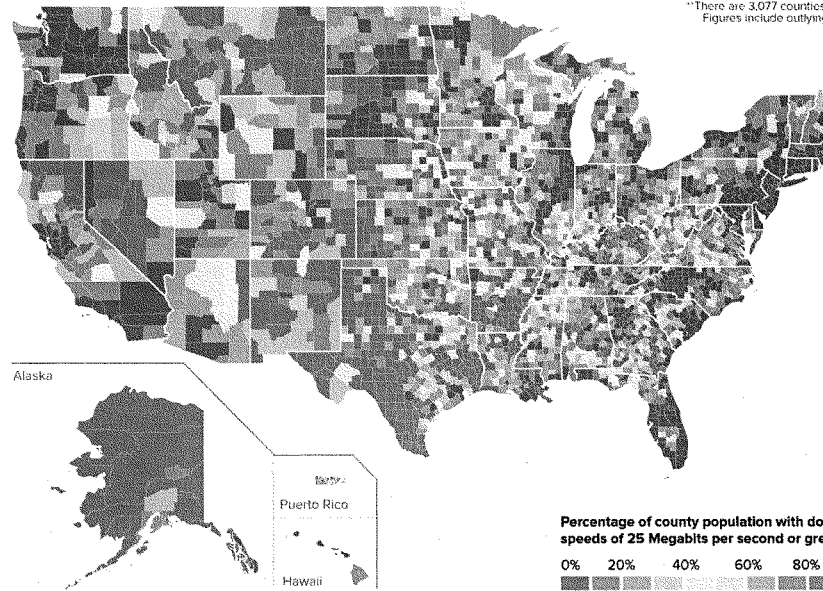
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BROADBAND ACCESS BY COUNTY

As of May 15, 2015

RURAL AMERICANS WHO LACK ACCESS TO HIGH-SPEED BROADBAND* 22M | COUNTIES** WITH LESS THAN 50% PENETRATION 1,219 | COUNTIES WITH LESS THAN 1% 1,219

*25mbps download/3mbps upload
**There are 3,077 counties
Figures include outlying



Sources: National Telecommunications Information Administration; Federal Communications Commission

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(Click to enlarge)

Asked whether the rural regulator had treated his community fairly, Matthew Huddleston, the county's administrator, strained to be diplomatic during an interview this spring in the county's government headquarters.

"I understand the challenges of dealing with the federal government. And sometimes it's slower than we hoped for, and sometimes we don't get things as fast as we want," he said. "They're a large entity, they have a lot going on — it's been a challenge. But we're trying to work with them, and to give them everything they ask us for, and to try to keep things moving forward as best we can."

To improve its relationship with the feds, Lake County even hired a special consultant — Legg, the former RUS administrator, who "has assisted firm clients in obtaining approximately \$450 million in broadband stimulus," according to her own bio.

And as the Minnesota region hits the gas in the final days of the stimulus, the agency's temperament has again left the state's congressional representatives peeved.

"Large-scale infrastructure projects will always face challenges, no matter who is building them," Franken said in a statement to POLITICO, "but unfortunately, it seems that the Rural Utilities Service has contributed to some of the challenges faced by communities in Minnesota, and that shouldn't have been the case."

Lake County is not alone in what has become a race against the clock. Roughly 150 of the total, original 297 broadband infrastructure projects approved by RUS have not drawn down their full awards, leaving \$277 million in potential investment to possibly be returned to the Treasury. Adding to the headaches, RUS has not determined how many of its awardees completed their projects by the end of June. The agency imposed that deadline, after all, so it had sufficient time to ensure networks were built as proposed — and it's unclear if it's been met.

Even more troubling, RUS can't tell which residents its stimulus dollars served. In May, the agency reported it has delivered new or improved services to 213,000 households and more than 15,000 businesses. But RUS, as it collected that data from awardees, never asked whether those residents live in unserved, neglected rural towns, or areas that had some broadband access before the Recovery Act.

"RUS did not collect information that allowed anyone to evaluate whether or not it reached its goals or what impact it had," said GAO's Goldstein.

https://www.politico.com/story/2015/07/broadband-coverage-rural-area-fund-mishandled-120601_full.html?print

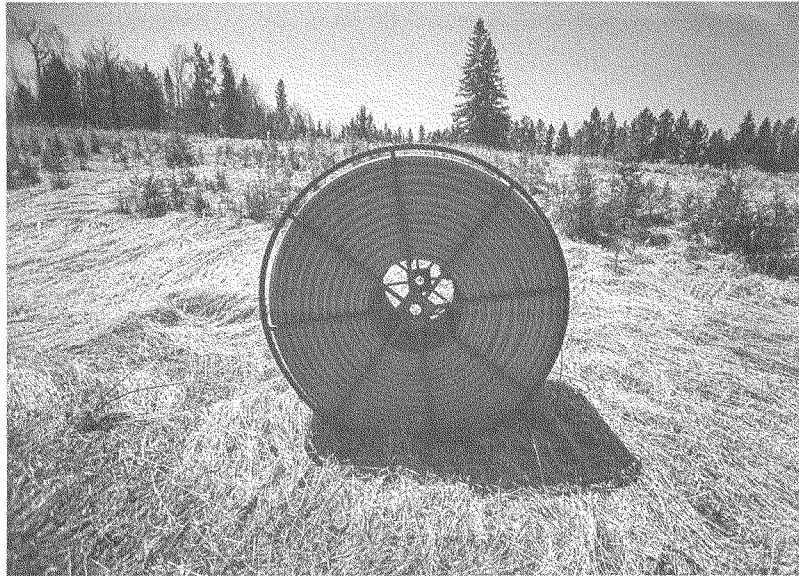
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Either way, it's a far cry from Adelstein's original prediction that RUS funding would benefit more than 7 million people in rural America. The number, after all, always had been theoretical; it reflected the number of individuals who might be reached by better broadband, if everything had been built to plan and attracted the maximum number of subscribers.

For years, though, RUS quietly and steadily lowered its estimates. Its latest prediction, made in March 2014, is that it will benefit 728,000 homes within five years. In May, however, the agency stopped putting that number in writing.



Lake Connections is behind schedule and risks forfeiting millions of dollars of its loan from RUS. But it still must finish the project. | M. Scott Mahaskey/Politico

The new head of RUS — the agency's fourth since the stimulus began — insists that RUS is on top of its portfolio. But Brandon McBride, a former congressional staffer for the Senate Agriculture Committee, took over only in March. He declined multiple interview requests, but issued a statement in defense of his embattled agency.

"Because of the strengthened risk management practices instituted by USDA, there has not been a single Recovery Act project default to date," he said. That could easily change in coming months. The agency's inspector general told Rep. Kevin Yoder (R-Kan.) in May that 21 loans issued by RUS before the Recovery Act had been in default prior to 2008.

And still, the state of U.S. broadband remains spotty. The country's national broadband map — completed in 2010, and updated again this year — shows that 50 percent of Americans in rural areas don't have high-speed Internet in the way the FCC now defines it. The government still is trying to close the gap, and RUS has continued lending, announcing millions of dollars in new awards this year for new networks in Arkansas and New Mexico. But even Secretary of Agriculture Tom Vilsack acknowledged the stakes while announcing the new effort in March.

"Many rural areas still need help and assistance," he said.

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11/17

June 26, 2018

The Honorable Marsha Blackburn
Chairman
Subcommittee on Communications and Technology Committee on Energy and
Commerce
United States House of Representatives
2152 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Blackburn:

As Organizations fighting against human trafficking and sexual exploitation of children around the world, we want to thank you and express our support for the inclusion of the "Sense of Congress" language in the National Telecommunications and Information Administration (NTIA) reauthorization bill on the need to preserve the domain name system and the importance of maintaining a free, accessible, transparent, and publically available WHOIS database.

Unfortunately, some Registrars and Registries have used the EU's General Data Protection Regulation (GDPR) as an excuse to shut down public access to a full range of WHOIS data. As anti-human trafficking, survivor, and child safety groups, we work closely with law enforcement who utilize the WHOIS database as a critical tool to help determine who is operating a criminal website that is knowingly engaged in human trafficking. Without an open WHOIS database, we are very concerned that the ability to go after these websites will be curtailed and thus make the recently enacted FOSTA-SESTA law less effective.

Thank you for your leadership, and we look forward to working with you on this important issue in order to make the Internet safe, secure and sustainable for all.

Sincerely,

ECPAT USA
Enough is Enough
Mary Mazzio and the I AM JANE DOE, Survivors and Families

JOHN M. SHIMKUS
15TH DISTRICT, ILLINOIS
2217 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-5271
ENERGY AND COMMERCE
COMMITTEE
SUBCOMMITTEES
ENVIRONMENT AND THE ECONOMY
CHAIRMAN
HEALTH
ENERGY AND POWER
COMMUNICATIONS AND TECHNOLOGY

Congress of the United States
House of Representatives
Washington, DC 20515-1315

May 11, 2018

15 PROFESSIONAL PARK DRIVE
MARYVILLE, IL 62062
(618) 288-7190
CITY HALL, ROOM 12
110 EAST LOCUST STREET
HARRISBURG, IL 62948
(618) 252-8271
101 NORTH FOURTH STREET, SUITE 303
EFFINGHAM, IL 62401
(217) 347-7947
201 NORTH VERNILSON STREET, SUITE 218
DANVILLE, IL 61832
(217) 448-0664

Mr. Larry Page
Chief Executive Officer
Alphabet, Inc.
1600 Amphitheatre Parkway
Mountain View, CA 94043

Dear Mr. Page:

Since arriving in Congress, we have strived to help make the internet a competitive, open and safe place and are gratified to have seen it become a tremendous resource for all Americans and the businesses they support. Sadly, however, we have all witnessed how this amazing technological achievement can also be used to perpetrate criminal and other illicit behavior, which compromises our public safety and security, and undermines the very foundation of this indispensable platform.

The solution to protecting the integrity of the internet is, of course, transparency and public accountability. It is transparency that has driven one of the core ingredients of a sustainable internet, the publicly accessible WHOIS database. The Internet Corporation for Assigned Names and Numbers (ICANN) coordinates the WHOIS database, and contractually requires registrars and registries to make public certain WHOIS data regarding the identity of domain name registrants, including name, email, and phone number. WHOIS serves as the backbone of consumer trust and online protection because it provides the public with an indispensable window into who owns and operates websites in which we place our trust and, in some cases, personal information.

From its founding, the WHOIS database was designed as a public directory to allow anyone to contact any individual who has obtained an internet domain address. Domain name registrants have long been aware that they must provide certain identifying information that will be publicly disclosed, and that such information may be used for matters of public safety, consumer protection, dispute resolution, and enforcement of rights. However, ICANN has unfortunately recently proposed changes to the publication of WHOIS data that will dramatically alter its essential and historical purpose and do not do justice to the spirit of the European Union's impending General Data Protection Regulation (GDPR).

We write to express concern that the interim ICANN proposal removes access to even the most basic of WHOIS information, which is not a reflection of the requirements of the GDPR. Restricting such access to WHOIS data would diminish online transparency, responsibility, and accountability, as well as jeopardize internet security and safety. Moreover, it would frustrate what ICANN itself has identified as WHOIS's most basic public policy interests, including "enhancing trust in the DNS, ensuring consumer protection, protecting intellectual property, combating cyber-

crime, piracy and fraud.”¹ Of course, it would also thwart even preliminary examinations into identity theft, cyber-attacks, unlawful sale of drugs, human trafficking, and other criminal behavior. Relying on an overly broad interpretation of the GDPR could have the perverse consequence of jeopardizing consumer safety and the ability of the public to identify who owns and operates internet domain addresses (and, by extension, who then collects user data via said domain).

We serve on the U.S. House of Representatives Committee on Energy and Commerce, which regularly conducts significant oversight of NTIA, ICANN, the domain name ecosystem, and the IANA transition. In 2015 the House passed the DOTCOM Act, which Mr. Shimkus authored, and as such we believe it is imperative that registrars and registries, together with others in the ICANN community, work with NTIA to ensure there is balanced progress in developing a GDPR-compliant accreditation framework that preserves accountability by allowing qualified access to registrant information.

We respectfully request that you respond promptly in writing to the following:

1. Please clarify what GDPR-related changes you have made or intend to make with respect to the WHOIS data you collect or receive;
2. Please indicate whether, with the exception of registrants who are natural persons and confirmed residents of the EEA, you will continue to publish in a publicly accessible WHOIS directory all domain registrant data that your current contracts with ICANN (under the Registrar Accreditation Agreement or the applicable Registry Agreement) require to be collected and made public—even if doing so requires you to reverse changes you have already made or are preparing to make;² and
3. Please confirm that you are actively working in good faith with others in the ICANN community (such as public safety non-governmental organizations, cyber-security professionals, and intellectual property owners) to launch—before any WHOIS data is removed from public access—a GDPR-compliant accreditation framework that allows qualified access to such information for legitimate purposes.

Sincerely,



The Hon. John Shimkus
Member of Congress



The Hon. Raul Ruiz
Member of Congress

¹ See ICANN's Governmental Advisory Committee (GAC) March 15 ICANN 61 communiqué, reflecting a formal consensus view of its more than 170 member countries and economies.

² We are aware that some of your domain name registrants currently subscribe to privacy or proxy registration services that mask some of their WHOIS data from unfettered public access. The inquiry we are making is without prejudice to the continued operation of such services in accordance with your existing ICANN contractual obligations, including the implementation of ICANN policies governing the minimum terms and conditions under which such masked data would be published or disclosed to qualified investigators, law enforcement, and similar requestors.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6115

Majority (2021) 225-2927
Minority (2021) 225-3641

July 12, 2018

The Honorable Michael D. Gallagher
CEO
Entertainment Software Association
601 Massachusetts Avenue, N.W.; Suite 300 West
Washington, DC 20001

Dear Mr. Gallagher:

Thank you for appearing before the Subcommittee on Communications and Technology on Tuesday, June 26, 2018, to testify at the hearing entitled "Discussion Draft: National Telecommunications and Information Administration Reauthorization Act of 2018."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Thursday, July 26, 2018. Your responses should be mailed to Evan Viau, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed to Evan.Viau@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,


Marsha Blackburn
Chairman
Subcommittee on Communications and Technology

cc: The Honorable Michael F. Doyle, Ranking Member, Subcommittee on Communications and Technology

Attachment



July 26, 2018

The Honorable Marsha Blackburn
Chairman
Subcommittee on Communications and Technology
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Blackburn:

It was my pleasure to appear before the Subcommittee on Communications and Technology on Tuesday, June 26, 2018, to testify at the hearing entitled "Discussion Draft: National Telecommunications and Information Administration Reauthorization Act of 2018." Attached please find my response to the question for the record that Rep. Peter Welch directed to me.

Please do not hesitate to contact me if you or anyone on the committee has further questions. Thank you for your leadership on these important technology issues.

Very truly yours,

A handwritten signature in black ink, which appears to read 'Michael D. Gallagher', is positioned below the closing.

Michael D. Gallagher
President and CEO
Entertainment Software Association

Attachment

Attachment – Response to Rep. Peter Welch’s Question for the Record

Rep. Welch’s Question:

1. *In this Information Age, the Internet offers endless possibilities. Unfortunately, these possibilities include harmful activity that impacts people all around the world. Do you believe NTIA as the President’s principal advisor on telecommunications policies, has a role to play in helping combat abuse of online platforms?*
 - a. *If yes, please specify the role and what actions the Agency should carry out in its role.*

Response of the Honorable Michael D. Gallagher:

Thank you for the opportunity to provide the Committee with additional information for the record.

Combatting online abuse, whatever its form, is important to fostering the full promise of the internet. NTIA can help combat online abuse in three key respects. First, NTIA is an important international advocate for preserving the Whois service, as the U.S. government representative to ICANN’s Governmental Advisory Committee (GAC) and the lead agency on domain name policy. Whois helps promote transparency and curb online abuse by providing a vital function for law enforcement, regulators, consumers, and IP owners trying to determine the identity of site owners engaged in possible illegal activity. Second, NTIA can play a vital convening role, bringing together law enforcement -- such as the FBI, Secret Service, Homeland Security Investigations, Computer Crime and Intellectual Property Section -- and regulators who have primary enforcement responsibility, to coordinate responses to online abuse. Third, NTIA can use its influence internationally to promote the U.S. approach to combatting online abuse with international partners in the telecommunications regulatory sphere.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
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Majority (202) 225-2927
Minority (202) 225-3641
July 12, 2018

The Honorable John Kneuer
President
JKC Consulting
2300 M Street, N.W.; Suite 800
Washington, DC 20037

Dear Mr. Kneuer:

Thank you for appearing before the Subcommittee on Communications and Technology on Tuesday, June 26, 2018, to testify at the hearing entitled "Discussion Draft: National Telecommunications and Information Administration Reauthorization Act of 2018."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Thursday, July 26, 2018. Your responses should be mailed to Evan Viau, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed to Evan.Viau@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



Marsha Blackburn
Chairman
Subcommittee on Communications and Technology

cc: The Honorable Michael F. Doyle, Ranking Member, Subcommittee on Communications and Technology

Attachment

John Kneuer
Responses to Questions for the Record
Subcommittee on Communications and Technology
Hearing entitled, "Discussion Draft: National Telecommunications and Information
Administration Reauthorization Act of 2018."
June 26, 2018

The Honorable Peter Welch

1. In this Information Age, the Internet offers endless possibilities. Unfortunately, these possibilities include harmful activity that impacts people all around the world. Do you believe NTIA, as the President's principal advisor on telecommunications policies, has a role to play in helping combat abuse of online platforms?
 - a. If yes, please specify the role and what actions the Agency should carry out in its role.

Response: As I stated in my written and oral testimony, NTIA plays a key coordinating function across various Executive Branch entities with equities in domestic and international Internet policy. With respect to abuse of online platforms NTIA is often called upon to lend its expertise to domestic law enforcement and Homeland security agencies, as well as the Defense and National Security communities. This support can be informal through the inter-agency policy coordination process, or more formally through representation of the United States before multi-national and/or inter-governmental bodies. In carrying out these functions NTIA should pursue the dual objectives of ensuring that the Internet remains a powerful tool for the free exchange of ideas, while at the same time ensuring that it is not abused as a threat to law enforcement or our Homeland and National Security.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6115

Majority (202) 225-2927
Minority (202) 225-3841

July 12, 2018

Ms. Joanne S. Hovis
President
CTC Technology and Energy
10613 Concord Street
Kensington, MD 20895

Dear Ms. Hovis:

Thank you for appearing before the Subcommittee on Communications and Technology on Tuesday, June 26, 2018, to testify at the hearing entitled "Discussion Draft: National Telecommunications and Information Administration Reauthorization Act of 2018."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Thursday, July 26, 2018. Your responses should be mailed to Evan Viau, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed to Evan.Viau@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



Marsha Blackburn
Chairman
Subcommittee on Communications and Technology

cc: The Honorable Michael F. Doyle, Ranking Member, Subcommittee on Communications and Technology

Attachment

August 2, 2018

The Honorable Marsha Blackburn, Chairman
The Honorable Michael Doyle, Ranking Member
The Honorable Peter Welch, Member
Subcommittee on Communications and Technology
Committee on Energy and Commerce
U.S. House of Representatives
2125 Rayburn House Office Building
Washington, D.C. 20515-6115

Subject: Response to Mr. Welch's question regarding the potential role of NTIA in identifying and combating abuse of online platforms

Dear Chairman Blackburn, Ranking Member Doyle, and Representative Welch:

Per the request to respond to Mr. Welch's question regarding whether and how NTIA might help to identify and combat abuse of online platforms, I extend my thanks for the question. In my view, NTIA can play a crucial role in studying and documenting some of the many challenges presented by abuse of online platforms, based on its considerable expertise in understanding the governance of the internet, the commercial elements of its operation, and its criticality in American life. In this way, NTIA's capabilities can be leveraged to support the robust national debate about platform abuse that I believe is essential and that should be a priority of the Committee and the Congress.

As a broadband and internet analyst for public entities, I find that the counties, cities, and states for whom I work are deeply concerned because they know that the broadband internet is increasingly essential to their communities' economic and civic life, but that abuse of platforms raises some of the most challenging and tricky communications issues we face as a nation.

Among other matters, America's communities are concerned by use of platforms from within our own communities to abuse and harass others; and the use of platforms from outside our nation to create discord, sow mistrust, and subvert our institutions.

With respect to the internal abuse issues, there is widespread concern that our reasonable instinct to protect victims of online abuse and resulting harassment may be challenging to reconcile with our long tradition of erring in the direction of protecting speech. And the complexities and nuances of this issue are not only manifold, but we are only now starting to understand their scale and scope.

For example, consider how the online platforms function as the equivalent of many non-digital spaces in all of our lives, and how differently we would treat such behavior in their non-online equivalents: Specifically, the online platforms serve as the modern era's town square for purposes of civic discourse and political engagement, and in those spaces in non-cyber space, we have as a nation chosen largely to refrain from restrictions and even monitoring in order to protect speech. However, at the same time, the platforms also serve as other critical "spaces," and for many Americans, have become their workplaces, social gathering places, educational institutions, or community centers. The types of harassment and abuse that are rife on the platforms would rightly not be tolerated in the bricks-and-mortar equivalents of these online spaces.

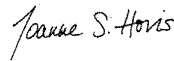
And, indeed, intentionally-destructive foreign interference in those non-cyber spaces would not only not be tolerated but is virtually inconceivable as a practical matter. The ubiquity and anonymity of the online platforms, however, makes such destructive interference not only easy and cheap for foreign actors, but very challenging for Americans to identify and understand.

These difficult questions—and the fast evolution of the online platforms to become the modern equivalent of so many spaces in American life—require significant study, evaluation, and debate. This set of concerns is one that should be debated by our society and by the Congress over a considerable amount of time, sufficient to fully vet the critical issues raised. And any long-term role assigned for NTIA should be part of a broader understanding of how to guard against abuse, dangers, harassment, and foreign incursion on the platforms while protecting speech and our national interest. In the meantime, NTIA can play a valuable role in studying and documenting some of these challenges.

I hope that you and your colleagues will embark on a comprehensive analysis of this set of issues in the interests of public discourse and broad engagement on the topic.

Many thanks for your consideration.

Sincerely,



Joanne S. Hovis
President